

Final



**ENVIRONMENTAL ASSESSMENT FOR THE
CONSTRUCTION OF THE
DISTRIBUTED COMMON GROUND
STATION (DCGS) AT
LANGLEY AIR FORCE BASE, VIRGINIA**

**United States Air Force
1st Fighter Wing
March 2007**

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**FINDING OF NO SIGNIFICANT IMPACT/
FINDING OF NO PRACTICABLE ALTERNATIVE**

NAME OF THE PROPOSED ACTION

Construction of the Distributed Common Ground Station (DCGS) at Langley Air Force Base (AFB), Virginia

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The 1st Fighter Wing at Langley AFB proposes to construct a new 144,500-square-foot DCGS facility to support the completion of movement of personnel and equipment currently located in temporary vans. The DCGS will also strengthen operations to meet future mission near-real-time/real-time demands.

Another alternative would involve demolishing Buildings 326, 329, 333, 337, and 339; vacating Building 338; and constructing an approximately 144,500-square-foot facility at the existing location on Sweeney Boulevard.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Proposed Action and Alternatives: This Environmental Assessment (EA) provides an analysis of the potential environmental consequences associated with the proposed action, two action alternative locations, and the no action alternative. Nine resource categories received thorough evaluation to identify potential environmental consequences. As indicated in Chapter 4.0, none of the alternatives would result in significant impacts to any resource area.

Land Use, Transportation, and Visual Resources: Construction of the DCGS facility under the proposed action would be consistent with base plans and zoning. Construction of the DCGS facility at the Sweeney Boulevard alternative site would conflict with the Base General Plan and the current zoning initiative, which identifies the land for aircraft operations and maintenance. Both the proposed action and the two action alternative would be consistent to the maximum extent practicable with the goals of the Coastal Zone Management Act.

Under both the proposed action and the two action alternatives, construction-related truck traffic may lead to degradation of base road surfaces and occasional congestion at the base gates. The proposed action would generate additional traffic on the base perimeter road, adversely affecting the level of service and safe operating conditions as the proposed action and other development occur on the north side of the base. Construction of the DCGS facility at the Sweeney Boulevard location would result in a degradation of the level of service on Sweeney Boulevard, particularly at the unsignalized intersection with Birch Street. Road improvements would be developed to minimize the adverse effects, and long-term environmental consequences would not be significant.

The visual resources of the proposed action site would change with the loss of the open pasture area; however, there would be no significant adverse impacts on aesthetics. Under both the proposed action and the two action alternatives, construction of the DCGS facility would be in accordance with base architectural and landscaping standards, and the visual character of the base would be improved.

Cultural Resources: Implementation of the proposed action and the two action alternatives is not expected to impact cultural resources. The proposed action area has been inventoried for archaeological resources, and no significant resources have been identified. If resources were inadvertently discovered, construction activities would be halted, the State Historic Preservation Office (SHPO) would be notified, and procedures outlined in the National Historic Preservation Act would be followed. Consultation with the SHPO was completed on May 21, 2006.

Biological Resources: Construction associated with the proposed action and the two action alternatives would have no significant effects on individual species or native plants or animals because the only plant or animal species likely to be displaced from this marginal habitat are individuals of common and locally abundant species. No direct loss of wetlands is anticipated with the development at the Poplar Road location or at the Sweeney Boulevard location. However at the proposed action location, 0.44 acres of wetlands would be filled. If this site is chosen, then wetland mitigation measures will be needed to arrive at a Finding of No Significant Impact (FONSI) or a Finding of No Practicable Alternative (FONPA) and permitting in accordance with section 404 of the Clean Water Act. A wetland permit package is being reviewed by relevant federal and state agencies. While the formal review is in progress, the preliminary response from all agencies is that the permit package will be approved. As the mitigation measure for the wetlands lost under the proposed action, Langley AFB will pay into the Virginia Aquatic Resources Trust Fund, which has been approved for this use in accordance with the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (November 28, 1995). No threatened, endangered, or special species/communities would be significantly affected by the proposed action or the two action alternatives. Incidentally occurring listed, proposed, or candidate species are not likely to be significantly affected because no critical habitat exists on Langley AFB, and bald eagles do not use Langley AFB for nesting or other critical life cycle functions.

Water Resources: Soil disturbance associated with the proposed action or the two action alternatives would not be expected to significantly affect the water quality of the Back River and Chesapeake Bay. Sediment control practices would be in accordance with the requirements from the Virginia Department of Conservation and Recreation, and a General Permit for Discharges of Stormwater from Construction Activities would be required from the agency. With the majority of Langley AFB located within the 100-year floodplain, including the proposed action and the two action alternative sites, there is no practicable alternative that would not involve construction in the floodplain. However, no significant adverse environmental consequences are anticipated for this resource

from construction and demolition under either the proposed action or the alternative locations.

Hazardous Materials and Waste Management: For the proposed action and both alternative locations, existing hazardous waste management practices would continue to be used to comply with Virginia regulations. Construction associated with the Poplar Road alternative would be adjacent to an Environmental Restoration Program (ERP) sites. The Langley AFB ERP manager would coordinate a waiver from Air Combat Command policy concerning construction disturbances on ERP sites. Waivers would identify the appropriate control measures for the activities at the ERP site; no long-term significant environmental consequences are anticipated. No appreciable hazardous waste generation is expected with the operation of the DCGS. Demolition activities associated with the Poplar Road and the Sweeney Boulevard alternatives would generate approximately 550 and 22,580 cubic yards of construction debris, respectively. If not recycled, these materials would be disposed of at landfills that have adequate capacity without having a significant effect on the overall capacity.

Safety: Implementation of either the proposed action or both alternatives would increase safety risks during the construction and demolition phases; however, these risks would be reduced with implementation of standard construction and demolition safety practices. No significant adverse environmental consequences are anticipated.

Noise: Construction noise associated with the proposed action or both alternatives would generate temporary, localized noise during the construction and/or demolition phases. These localized noise increases may disrupt base personnel in nearby structures, but the noise disruptions would be temporary and limited to daytime hours; therefore, impacts are considered insignificant. The proposed action site is located within the 70–75 dB DNL noise contour. The facility is being designed with features that provide 35 dB DNL noise level reduction.

Air Quality: Air emissions related to the implementation of the proposed action or the either of the action alternatives would be generated both on base and within the region due to the hauling of fill material to the base and other earth-moving activities. These emissions would be less than 1 percent of emissions in the Hampton Air Quality Control Region. Langley AFB is located in a maintenance area for ozone; however, neither the proposed action nor the two action alternatives would contribute ozone-related emissions above United States Environmental Protection Agency established *de minimis* levels for ozone. A formal air quality conformity determination is not required.

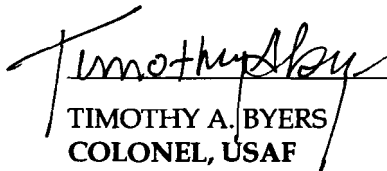
Socioeconomics: Employment and earnings associated with the proposed action and either action alternative are not expected to have any significant adverse environmental consequences. There would be a slight beneficial increase in regional economic activity with the implementation of either the proposed action or the either action alternative.

No Action Alternative: Under the no action alternative, construction of the new DCGS facility would not occur. Current facilities would not support the effort to transform the

Air Force DCGS weapon system into a 21st century weapon system. Failing to provide a new and more capable facility for the 480th Intelligence Wing (480 IW) at Langley AFB would deprive the unit of the ability to execute new mission tasking.

CONCLUSION

Based on the analysis in the EA which is hereby incorporated by reference, no significant impact is anticipated from implementation of the proposed action, the Poplar Road or Sweeney Boulevard alternatives, or the no action alternative. Therefore, issuance of a finding of no significant impact is warranted, and an environmental impact statement is not required. Pursuant to Executive Order 11988, the authority delegated in Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that the proposed action includes all practicable measures to minimize harm to the environment.


TIMOTHY A. BYERS
COLONEL, USAF

Director of Installations and Mission Support (A7)

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ACRONYMS AND ABBREVIATIONS

1 CES/CEVR	1st Civil Engineering Squadron, Environmental Restoration Branch	EIAP	Environmental Impact Analysis Process
192 IS	192nd Intelligence Squadron	EO	Executive Order
1 FW	1st Fighter Wing	ERP	Environmental Restoration Program
480 IW	480th Intelligence Wing	ESA	Endangered Species Act
ACC	Air Combat Command	FY	Fiscal Year
ACAM	Air Force Conformity Applicability Model	HRSD	Hampton Roads Sanitation District
ACHP	Advisory Council on Historic Preservation	HTA	Heavier Than Air
ACM	Asbestos-Containing Materials	IICEP	Intergovernmental Coordination for Environmental Planning
ADP	Area Development Plan	IW	Intelligence Wing
AFB	Air Force Base	kW	Kilowatt
AFI	Air Force Instruction	LTA	Lighter Than Air
AFM	Air Force Manual	MGD	Million Gallons per Day
Air Force	United States Air Force	MSA	Munitions Storage Area
AOC	Area of Concern	MSL	Mean Sea Level
AQCR	Air Quality Control Region	NAAQS	National Ambient Air Quality Standards
AST	Aboveground Storage Tank	NASA	National Aeronautics and Space Administration
CAA	Clean Air Act	NEPA	National Environmental Policy Act
CEQ	Council on Environmental Quality	NIMA	National Imagery Mapping Agency
CFR	Code of Federal Regulations	NHPA	National Historic Preservation Act
CO	Carbon Monoxide	NO ₂	Nitrogen Dioxide
CONUS	Continental United States	NO _x	Nitrogen Oxides
CZMA	Coastal Zone Management Act	NPS	National Park Service
dB	Decibel	NRHP	National Register of Historic Places
dba	Decibel Average Over Time	O ₃	Ozone
DCGS	Distributed Common Ground Station	OSHA	Occupational Safety and Health Administration
DCR	Department of Conservation and Recreation	Pb	Lead
DDESB	Defense Department Explosives Safety Board	PM ₁₀	Particulate Matter Less Than 10 Micrometers
DGS	Deployable Ground System	PM _{2.5}	Particulate Matter Less Than 2.5 Micrometers
DNL	Day-Night Average Sound Level	Q-D	Quantity-Distance
DoD	Department of Defense		
EA	Environmental Assessment		

ROI	Region of Influence	USFWS	United States Fish and Wildlife Service
RUL	Remaining Useful Life		
SHPO	State Historic Preservation Office	UPH	Unaccompanied Personnel Housing
SIP	State Implementation Plan	UST	Underground Storage Tank
SO ₂	Sulfur Dioxide	VAC	Virginia Administrative Code
SR	State Route	VA ANG	Virginia Air National Guard
UCAV	Unmanned Combat Air Vehicle	VDEQ	Virginia Department of Environmental Quality
UFC	Unified Facilities Criteria	VOC	Volatile Organic Compound
U.S.	United States	VPDES	Virginia Pollutant Discharge Elimination System
USACE	United States Army Corps of Engineers	WTP	Water Treatment Plant
USC	United States Code		
USEPA	United States Environmental Protection Agency		

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COLONEL, USAF
Director of Installations and Mission Support (A7)

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) describes the potential environmental consequences from construction of a new Distributed Common Ground Station (DCGS) at Langley Air Force Base (AFB), Virginia.

ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA has been prepared by the United States Air Force (Air Force) 1st Fighter Wing in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing NEPA, and 32 Code of Federal Regulations 989, et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction 32-7061).

PURPOSE AND NEED FOR ACTION

The purpose of this action is to provide a consolidated facility for development of the DCGS intelligence analysis at Langley AFB. The new building would house various parts of the 480th Intelligence Wing (480 IW) Deployable Ground System now located in Buildings 326, 329, 333, 337, 338, and 339 and provide additional space for the 192nd Intelligence Squadron of the Virginia Air National Guard (VA ANG). This action would support the completion of movement of personnel and equipment currently located in temporary vans; accommodate an additional 350 active and VA ANG personnel; and strengthen operations to meet future mission near-real-time/real-time demands.

PROPOSED ACTION AND ALTERNATIVES

The 1st Fighter Wing at Langley AFB proposes to vacate six existing DCGS facilities on Sweeney Boulevard and construct a new 144,500-square-foot DCGS weapon system facility at a site on the west side of Weyland Road at Langley AFB. This construction is needed to support the completion of movement of personnel and equipment currently located in temporary vans and strengthen operations to meet future mission near-real-time/real-time demands.

The Poplar Road alternative proposes to demolish hazardous waste facilities 1390 and 1395 and construct an approximately 144,500-square-foot facility on the corner of Poplar Road and Weyland Road at Langley AFB. The Sweeney Boulevard alternative proposes to demolish facilities 326, 329, 333, 337, and 339; vacate facility 338; and construct an approximately 144,500-square-foot facility at the existing location on Sweeney Boulevard.

This EA analyzes the potential impacts from the construction associated with the proposed action, the possible demolition associated with the Poplar Road and Sweeney Boulevard alternatives, and the no action alternative.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

This EA provides an analysis of the potential environmental consequences during the construction associated with the proposed action, the two alternatives, and the no action alternative. Nine resource categories received a thorough evaluation to identify potential environmental consequences. As indicated in Chapter 4.0, construction and demolition would not result in significant impacts to any resource area.

Land Use, Transportation, and Visual Resources: Construction of the DCGS facility under the proposed action would be consistent with base plans and zoning. Construction of the DCGS facility at the Sweeney Boulevard alternative site would conflict with the Base General Plan and the current zoning initiative, which identifies the land for aircraft operations and maintenance. Both the proposed action and the Sweeney Boulevard alternative would be consistent to the maximum extent practicable with the goals of the Coastal Zone Management Act.

Under the proposed action and both alternatives, construction-related truck traffic may lead to degradation of base road surfaces and occasional congestion at the base gates. Additional traffic would be generated on the base perimeter road under the proposed action, adversely affecting the level of service and safe operating conditions as this proposal and other development occur on the north side of the base. Construction of the DCGS facility at the Sweeney Boulevard location would result in a degradation of the level of service on Sweeney Boulevard, particularly at the unsignalized intersection with Birch Street. Road improvements would be developed to minimize the adverse effects, and long-term environmental consequences would not be significant.

The visual resources of the proposed action site would change with the loss of the horse pasture; however, there would be no significant adverse impacts on aesthetics. For both the proposed action and the alternative sites, construction of the DCGS facility would be in accordance with base architectural and landscaping standards, and the visual character of the base would be improved.

Cultural Resources: Implementation of the proposed action and both action alternatives are not expected to impact cultural resources. The proposed action area has been inventoried for archaeological resources and no significant resources have been identified. If resources were inadvertently discovered, construction activities would be halted, the State Historic Preservation Office (SHPO) would be notified, and procedures outlined in the National Historic Preservation Act would be followed. Consultation with the SHPO was completed on May 21, 2006.

Biological Resources: Construction associated with the proposed action and the two action alternatives would have no significant effects on individual species or native plants or animals because the only plant or animal species likely to be displaced from this marginal habitat are individuals of common and locally abundant species. No direct loss of wetlands is anticipated

with the development at the Poplar Road location or at the Sweeney Boulevard location. However at the proposed action location, 0.44 acres of wetlands would be filled. If this site is chosen, then wetland mitigation measures will be needed to arrive at a Finding of No Significant Impact (FONSI) or a Finding of No Practicable Alternative (FONPA) and permitting in accordance with section 404 of the Clean Water Act. A wetland permit package is being reviewed by federal and state agencies. The preferred compensation remedies for any wetlands lost would be the option of payment into the Virginia Aquatic Resources Trust Fund. A wetland mitigation plan would be required within 90 days of FONSI/FONPA signature. No threatened, endangered, or special species/communities would be significantly affected by the proposed action or the two action alternatives. Incidentally occurring listed, proposed, or candidate species are not likely to be significantly affected because no critical habitat exists on Langley AFB, and bald eagles do not use Langley AFB for nesting or other critical life cycle functions.

Water Resources: Soil disturbance associated with the proposed action or with both action alternatives would not be expected to significantly affect the water quality of the Back River and Chesapeake Bay. Sediment control practices would be in accordance with the requirements from the Virginia Department of Conservation and Recreation, and a General Permit for Discharges of Stormwater from Construction Activities would be required from this agency. With the majority of Langley AFB located within the 100-year floodplain, including the proposed action and the alternative sites, there is no practicable alternative that would not involve construction in the floodplain. No significant adverse environmental consequences are anticipated for this resource from the construction associated with the proposed action or the either alternative site.

Hazardous Materials and Waste Management: For either the proposed action or the action alternative locations, existing hazardous waste management practices would continue to be used to comply with Virginia regulations. Construction associated with the Poplar Road alternative would be adjacent to an Environmental Restoration Program (ERP) sites. The Langley AFB ERP manager would coordinate a waiver from Air Combat Command policy concerning construction disturbances on ERP sites. Waivers would identify the appropriate control measures for the activities at the ERP site; no long-term significant environmental consequences are anticipated. No appreciable hazardous waste generation is expected with the operation of the DCGS. Demolition activities associated with the Poplar Road and the Sweeney Boulevard alternatives would generate approximately 550 and 22,580 cubic yards of construction debris, respectively. If not recycled, these materials would be disposed of at landfills that have adequate capacity without having a significant effect on the overall capacity.

Safety: Implementation of the proposed action and the action alternatives would increase safety risks during the construction and demolition phases; however, these risks would be reduced with implementation of standard construction and demolition safety practices. No significant adverse environmental consequences are anticipated.

Noise: Construction noise associated with the proposed action or the action alternatives would generate temporary, localized noise during the construction and/or demolition phases. These localized noise increases may disrupt base personnel in nearby structures, but the noise disruptions would be temporary and limited to daytime hours; therefore, impacts are considered insignificant. The proposed action site is located within the 70–75 dB DNL noise contour. The facility is being designed with features that provide 35 dB DNL noise level reduction.

Air Quality: Air emissions related to the implementation of the proposed action or either of the action alternatives would be generated both on base and within the region due to the hauling of fill material to the base and other earth-moving activities. These emissions would be less than 1 percent of emissions in the Hampton Air Quality Control Region. Langley AFB is located in a maintenance area for ozone; however, neither the proposed action nor the action alternatives would contribute ozone-related emissions above the United States Environmental Protection Agency's established *de minimis* levels for ozone. A formal air quality conformity determination is not required.

Socioeconomics: Employment and earnings associated with the proposed action and action alternatives are not expected to have any significant adverse environmental consequences. There would be a slight beneficial increase in regional economic activity with the implementation of either the proposed action or either of the action alternatives.

No Action Alternative: Under the no action alternative, construction of the new DCGS facility and demolition of the existing DCGS facilities would not occur. Current facilities would not support the effort to transform the Air Force DCGS weapon system into a 21st century weapon system. Failing to provide a new and more capable facility for the 480 IW at Langley AFB would deprive the unit of the ability to execute new mission tasking.

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The United States Air Force (Air Force), 1st Fighter Wing (1 FW), proposes to upgrade the Air Force Distributed Common Ground Station (DCGS) resources for the 480th Intelligence Wing (480 IW) at Langley Air Force Base (AFB). This Environmental Assessment (EA) has been prepared to analyze the potential environmental consequences associated with the proposed action and alternatives in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969. This document was prepared in accordance with the following.

- Requirements of NEPA (42 United States Code [USC] 4321-4347)
- Regulations established by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508)
- 32 CFR Part 989, et seq., *Environmental Impact Analysis Process*

Section 1.2 provides background information that briefly describes Langley AFB. The purpose and need for the proposed action, the Sweeney Boulevard alternative, and the no action alternative are described in Section 1.3.

Chapter 2.0 details the proposed action, the Poplar Road and Sweeney Boulevard alternatives, and the no action alternative. Chapter 3.0 describes the existing conditions of various environmental resources that could be affected by the proposed action or alternatives. Chapter 4.0 describes how those resources would be affected by the proposed action or alternatives. Chapter 5.0 addresses the cumulative effects of the proposed action or alternatives, as well as other recent past, current, and future actions that may be implemented in the region of influence (ROI).

1.2 BACKGROUND

Langley AFB is located approximately 175 miles south of Washington, D.C., near the south end of the lower Virginia Peninsula on the Back River, a tributary of Chesapeake Bay. The base is in Hampton, Virginia (Figure 1-1), in a metropolitan area of independent cities and counties in the southeast corner of Virginia. The entire area, which is known as Hampton Roads, is divided by the James River into two geographic regions. The northern portion is called the Virginia Peninsula and the southern portion is called South Hampton Roads. Other cities in the area include Newport News, Poquoson, Norfolk, and Portsmouth. As shown in Figure 1-2, the main base occupies 2,883 acres between the Northwest and Southwest Branches of the Back River.

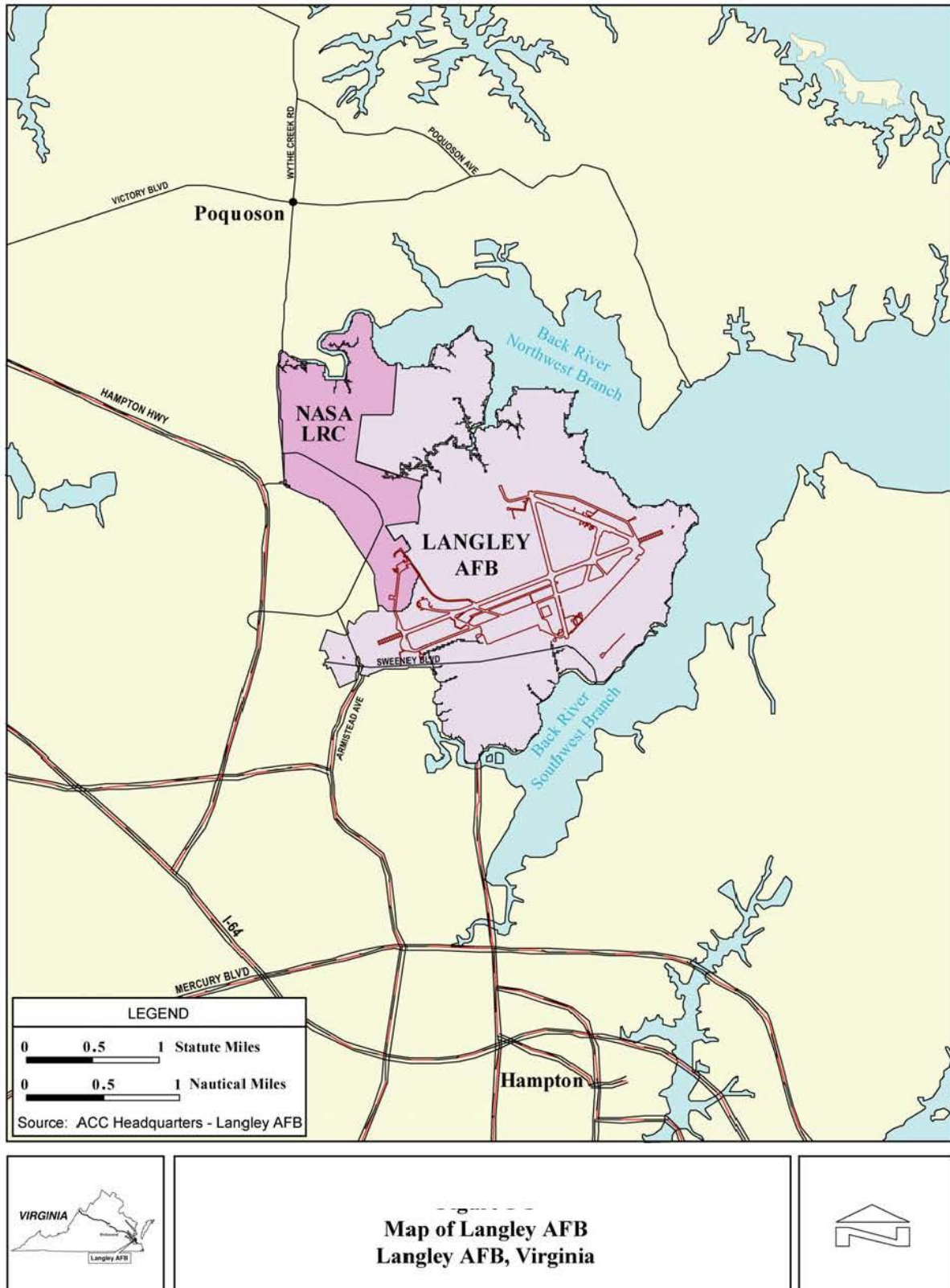


Figure 1-1. Map of Langley AFB, Virginia

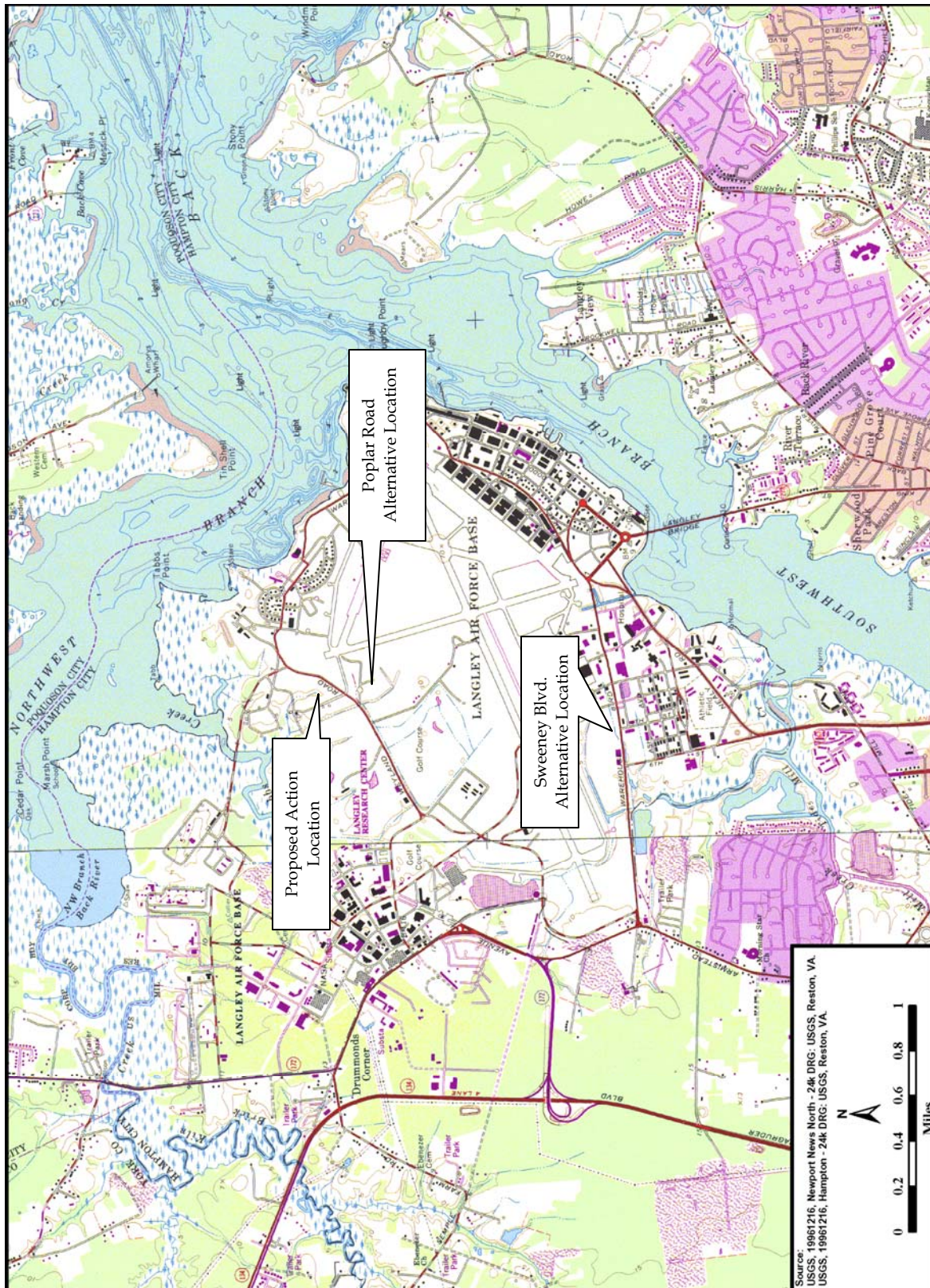


Figure 1-2. Site Map

Langley AFB is headquarters for Air Combat Command (ACC) and home of the 1 FW. ACC is one of eight major commands in the Air Force and is responsible for organizing, equipping, training, and maintaining combat-ready forces at the highest level of preparedness. The primary mission of Langley AFB is to provide air operational support to a broad spectrum of aircraft in both peacetime and combat environments. General goals of the base are to sustain the resources and relationships deemed appropriate to pursue national interests and provide for the command, control, and communications necessary to execute the missions of the Air Force, ACC, and the 1 FW.

The 480 IW is ACC's Department of Defense (DoD) Intelligence Information System Intelligence Data Handling System center, and a National Imagery Mapping Agency (NIMA) Library. It is also the only DoD Controlled Image Base production entity outside of NIMA, and the only service Air Force DCGS Processing Exploitation and Dissemination Operations Center. All of these areas have worldwide missions. The 480 IW has the responsibility to manage the ACC CONUS DCGS units and execute their worldwide multi-intelligence missions. It is the only Air Force Conventional Air Launched Cruise Missile, Joint Air-to-Surface Stand-off and threat recognition production center. The reach-back capability of the DCGS units allows its resources to cover any area of responsibility in the world, therefore requiring it to serve several combatant commanders simultaneously.

1.3 PURPOSE AND NEED

The purpose of this action is to provide a permanent facility to support the Air Force DCGS mission at Langley AFB, Virginia, by replacing the multiple existing facilities and providing additional space to meet increased manning requirements. This action would support the completion of movement of personnel and equipment currently located in temporary vans; accommodate an additional 350 active and Virginia Air National Guard (VA ANG) personnel from the 192nd Intelligence Squadron (192 IS); and strengthen operations to meet future mission near-real-time/real-time demands. These demands include current and future asset collections (U2, Predator, Global Hawk, Unmanned Combat Air Vehicle [UCAV]) from six simultaneous orbits (currently three orbits).

Recent transformational communications technology and warfare concepts have enabled the Air Force DCGS to conduct combat operations in-garrison at select Air Force and Army National Guard installations worldwide. This mission is being performed today at DGS-1, based at Langley AFB, using legacy equipment and facilities, but the modernized Air Force DCGS weapon system requires permanent facilities to house the expanded operational configuration and imagery weapons systems.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section describes the proposed action (Figure 2-1), the Poplar Road alternative (Figure 2-2), Sweeney Boulevard alternative (Figure 2-3), and the no action alternative. The proposed action would involve vacating the existing DCGS buildings on Sweeney Boulevard and constructing a new facility on west side of Weyland Road.

2.1 SELECTION CRITERIA

Eight selection criteria were identified by 1 FW for use in evaluating various sites at Langley AFB for the siting of the DCGS facility. These selection criteria are identified below, including references to base studies or regulations. The application of the criteria to the DCGS facility presented in Table 2-1 was applied to the proposed action, action alternatives, and alternate locations that were not carried forward for analysis.

Table 2-1. Selection Criteria for DCGS Site Selection

<i>Location</i>	<i>Compatible Land Use</i>	<i>Force Protection and Security Compliance</i>	<i>Additional Facility Relocation</i>	<i>Available Utilities and Infrastructure</i>	<i>Special Environmental Resources</i>	<i>Fire/Rescue Response Time</i>	<i>No Conflicts with Safety Zones</i>	<i>Adequate Land for Building and Ground Level Parking</i>
Poplar Road	✓	✓	✗	✗	✗	✓	✓	✓
Sweeney Boulevard	✗	✓	✓	✓	✓	✓	✓	✓
Elm Street	✓	✗	✗	✓	✗	✓	✓	✗
North Base	✓	✗	✗	✗	✗	✓	✓	✗
Weyland Road-West	✓	✓	✓	✓	✗	✓	✓	✓
Weyland Road-East	✓	✓	✗	✗	✗	✓	✓	✗
Munitions Storage Area	✓	✗	✓	✗	✗	✗	✗	✓
<i>Notes:</i> ✓ = Meets Selection Criteria ✗ = Did Not Meet Selection Criteria								

Compatible Land Use: The Base General Plan provides guidance on the overall layout of the base and identifies developmental opportunities and physical and natural constraints. Area Development Plans (ADPs), part of the General Plan, provide focused information on the future organization and circulation of personnel, buildings, and equipment within portions of the base. A Headquarters Air Combat Command zoning initiative has established zoning categories for all land within Langley AFB.

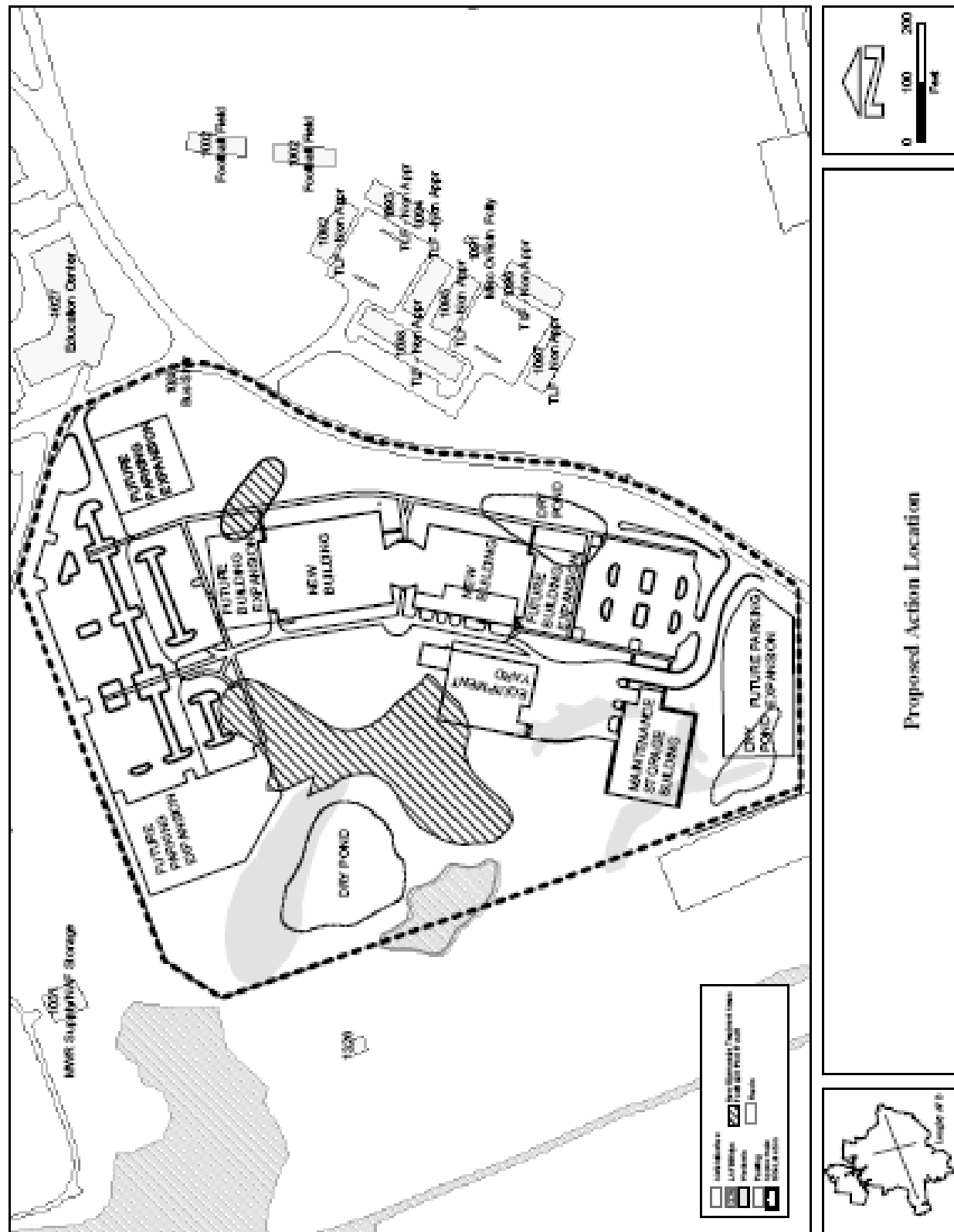


Figure 2-1. Proposed Action Site

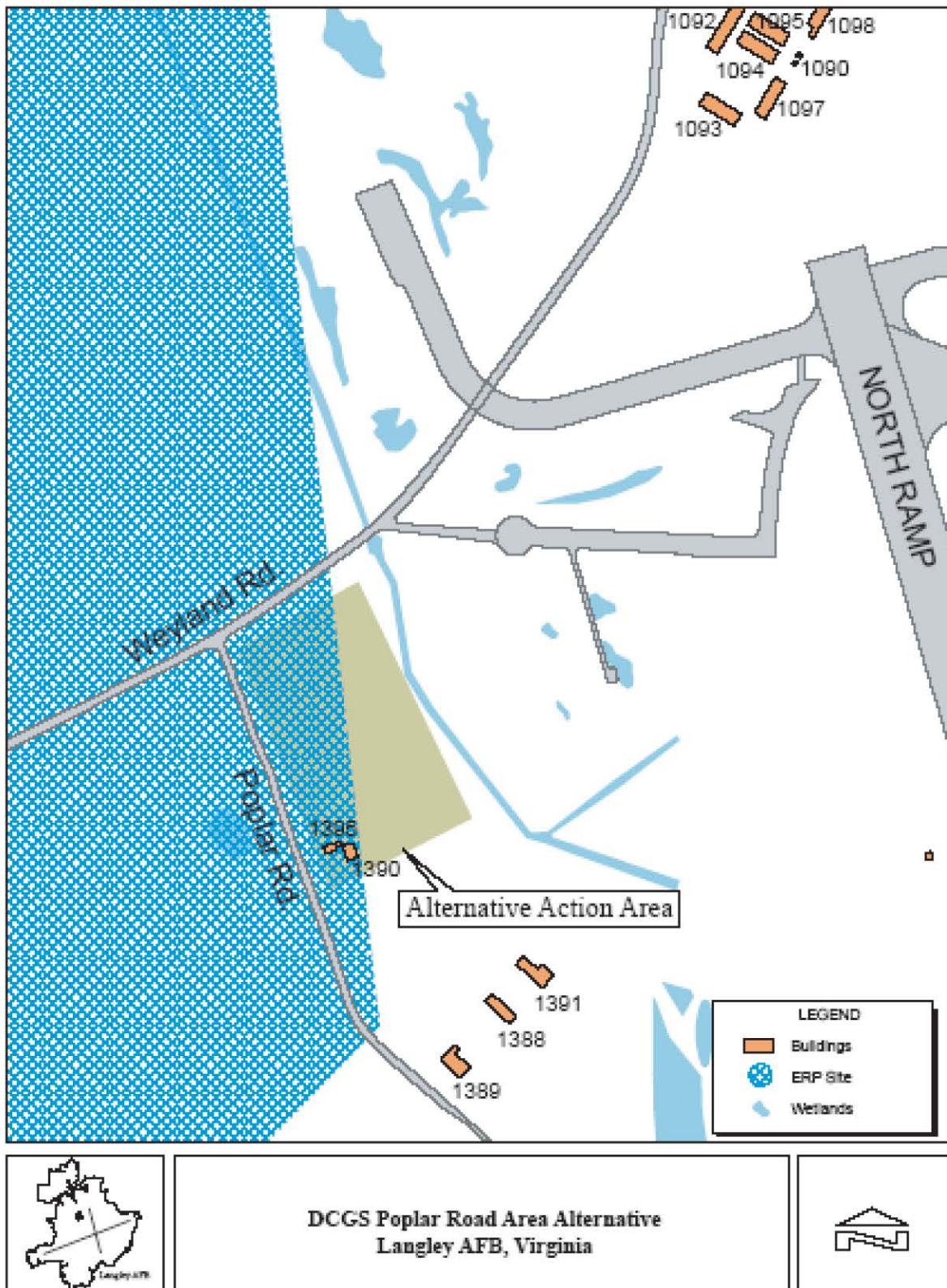


Figure 2-2. Poplar Road Alternative Site

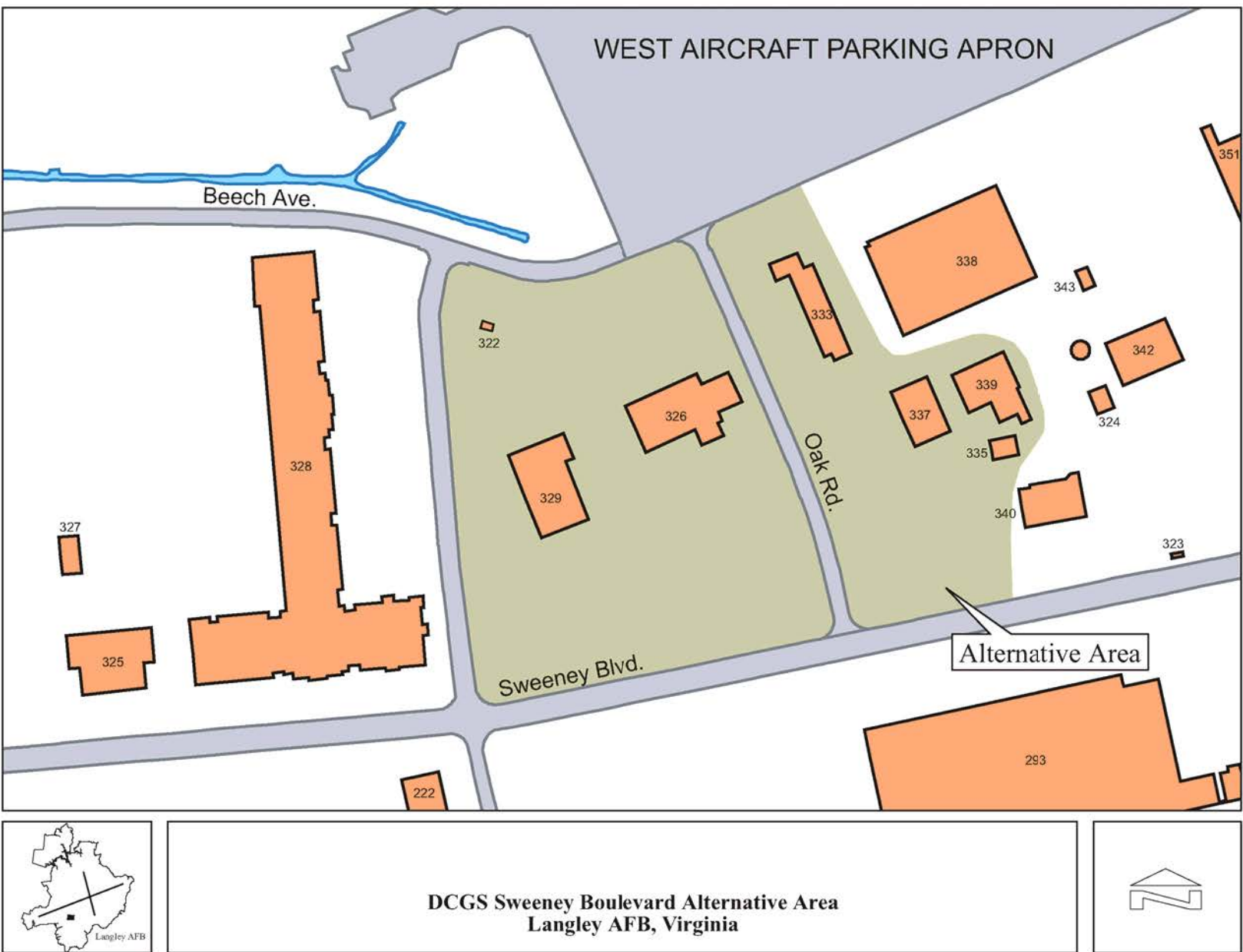


Figure 2-3. Sweeney Boulevard Alternative Site

Force Protection and Security Compliance: Facility location would meet the standards presented in Unified Facilities Criteria (UFC) 4-010-0 DoD Minimum Antiterrorism Standards for Building.

Additional Facility/Mission Relocation: Facility location should not be currently occupied by an existing mission, thus requiring relocation of that mission.

Available Utilities and Infrastructure: Facility location should have utilities and infrastructure nearby.

Presence of Special Environmental Resources:

Wetlands. Langley AFB is located entirely within the Chesapeake Bay watershed between the Northwest and Southwest Branches of the Back River. Wetlands mapping has identified 10 distinct wetland communities on the base comprising approximately 652 acres. Executive Order (EO) 11990, Protection of Wetlands, indicates “that the proposed action include all practicable measures to minimize harm to wetlands” and the Chesapeake Bay Preservation Act requires riparian buffers of 100 feet from water features (tidal wetlands).

Environmental Restoration Program (ERP) Sites. Because of past resource and waste management practices at Langley AFB, various toxic and/or hazardous compounds contaminated some areas of the base. In response, an environmental clean-up program, the ERP, was initiated and continuing efforts to comply with applicable laws and regulations ensure that present resource and waste management practices are performed in a manner that protects human health and the environment.

Historic and Archaeological Resources. Langley AFB, established in 1917, includes the National Register of Historic Places (NRHP)-eligible Langley Field Historic District encompassing the eastern part of the base. The district includes the Lighter-than-Air (LTA) and Heavier-than-Air (HTA) areas with nearly 250 contributing and non-contributing historic properties. Given the long history of human occupation in the region, Langley AFB has archaeological resources within the base boundaries that require additional consideration.

Fire/Rescue Response Time: Facility location should be near enough to Fire Station to meet required Fire/Rescue response time.

No Conflicts with Safety Zones: Defense Department Explosives Safety Board (DDESB) 6055.9-STD and Air Force Manual (AFM) 91-201 Explosives Safety Standards defined distances that need to be maintained between munitions storage areas and a variety of other types of facilities. These distances, called quantity-distance (Q-D) arcs, are determined by the type and quantity of explosive material to be stored. Each explosive material storage or handling facility has Q-D arcs extending outward from its sides and corners for a prescribed distance. Within these Q-D arcs, development is either restricted or prohibited altogether in order to ensure

safety of personnel and minimize potential for damage to other facilities in the event of an accident.

Adequate Land for Building and Ground Level Parking: Facility location should be of sufficient size to accommodate proposed building (with required setbacks) and proposed parking needs without needing to build a multi-story garage.

2.2 PROPOSED ACTION

Implementation of the proposed action would include the use of a 21.8 acre parcel of land on the west side of Weyland Road as shown in Figure 2-1. The site is currently used as horse pasture and would be developed with the construction of a new two-story 122,000-square-foot DCGS building, a 20,400 square foot maintenance storage building and a graveled surface equipment yard. Construction would include 450 parking spaces and access to the site would be from a separate driveway at each end of the main building. The southern access point would also serve as access for trucks and service vehicles two separate storm water management areas and a dry pond area. To meet stormwater management requirements, runoff from impervious surfaces would be directed to green areas within parking lots, to the two separate storm water management areas, which would then drain to the dry pond. This facility has been designed to satisfy the requirements of the Chesapeake Bay Protection Act to reduce drainage pollution.

This new facility would support 800 personnel assigned to the facility, including 350 new active and VA ANG personnel, as well as varying visitor groups. The maximum daily workforce is estimated to be 450 persons working 24/7 shift schedules. To provide uninterruptible power to this critical facility, four 1,750-kilowatt back-up diesel generators would be installed and supported by two 10,000-gallon double-walled aboveground storage tanks. Existing DCG-1 Buildings 326, 329, 333, 337, 338, and 339 would be vacated and turned over to 1 FW.

Construction. Before building construction would proceed on the site, approximately 13,300 cubic yards of fill would be brought to the site in order to ensure that the first floor elevation of the new buildings would be above the 100-year floodplain elevation. The Federal Emergency Management Agency has set the 100-year floodplain elevation at 8.5 feet. Construction would begin in Fiscal Year (FY) 2007 and would be scheduled for completion in FY 2009.

Appropriate erosion and siltation controls would be implemented prior to any land disturbance and maintained in effective operating condition throughout all construction activities. Langley AFB and its contractor shall comply with Virginia Administrative Code (9 (VAC) 25-210), Water Quality Standards, and all other appropriate water quality laws and regulations of the Commonwealth of Virginia, Virginia Department of Environmental Quality (VDEQ).

To minimize the potential for secondary (indirect) impacts to wetlands and water resources within, and adjacent to, the project areas, the following management requirements would be employed.

- Entrenched silt fencing and staked hay bales would be installed and maintained along the perimeter of the construction site prior to any ground-disturbing activities.
- Erosion control measures would be inspected on a weekly basis and after rain events; controls would be replaced as needed.
- To the greatest extent possible, the use of heavy equipment would be avoided after heavy rain events. Such equipment would be prohibited in all wetland areas.
- The construction site entrance would be stabilized using Virginia Department of Transportation-approved stone and geotextile (filter fabric).
- Construction activities would be sequenced (phased) to limit the soil exposure for long periods of time.
- Cleared areas would be vegetated or mulched once final grade has been established.

2.3 POPLAR ROAD ALTERNATIVE

Implementation of this alternative would include demolishing hazardous waste facilities 1390 and 1395 on Poplar Road and constructing a new two-story 144,500-square-foot DCGS building on the corner of Poplar Road and Weyland Road (Figure 2-2). Construction would include 450 parking spaces and would be sited to avoid filling the drainage ditch and wetlands that are located along the eastern edge of the site. This new facility would support 800 personnel assigned to the facility, including 350 new active and VA ANG personnel, as well as varying visitor groups. The maximum daily workforce is estimated to be 450 persons working 24/7 shift schedules. To provide uninterruptible power to this critical facility, four 1,750-kilowatt diesel generators would be installed and supported by two 10,000-gallon double-walled aboveground storage tanks. Existing DCG-1 Buildings 326, 329, 333, 337, 338, and 339 would be vacated and turned over to 1 FW.

Demolition. Prior to demolition of facilities 1390 and 1395, the contractor would establish and coordinate with 1st Civil Engineering Squadron (1 CES) a haul route for the removal of materials from the site. The proposed demolition would involve complete dismantling and removal of all facility structures and equipment. To ensure proper handling and disposition of the waste, all actions would be completed in accordance with applicable regulatory requirements. All utilities would be capped or disconnected. To the greatest extent practicable demolition materials would be recycled. The demolition contractor would dispose of the remaining materials in an approved landfill in accordance with commonwealth and local regulations.

Construction. Before building construction would proceed on the site, the existing wooded area would be cleared. In order to have the first floor elevation above the 100-year floodplain elevation, set at 8.5 feet by the Federal Emergency Management Agency, the building footprint of 90,000 square feet would be raised by 4 feet with approximately 13,300 cubic yards of fill. Construction would begin in Fiscal Year (FY) 2007 and would be scheduled for completion in FY 2009.

Activities under this alternative would follow the same sediment and erosion controls and standard construction practices as identified in Section 2.2.

2.4 SWEENEY BOULEVARD ALTERNATIVE

Implementation of the Sweeney Boulevard alternative would include demolition of existing Buildings 326, 329, 333, 337, and 339 (a total of 54,300 square feet) and four parking areas and approximately 800 feet of Oak Road. Building 338 would be vacated and turned over to 1 FW. A new two-story 144,500-square-foot building, with 450 parking spaces, would be built within the area east of Holly Street, between Beech Avenue and Sweeney Boulevard as shown in Figure 2-3. Access to the facility would be from Sweeney Boulevard and from Holly Street. Construction at this location would occur in three phases to allow for the continued use of some of the existing facilities during construction.

Activities under this alternative would follow the same sediment and erosion controls and standard construction practices as identified in Section 2.2.

2.5 NO ACTION ALTERNATIVE

Under the no action alternative, the proposed construction would not occur. Current facilities would not support the effort to transform the Air Force DCGS into a 21st century weapon system. Failing to provide a new and more capable facility for the 480 IW at Langley AFB would deprive the unit of the ability to execute new mission tasking. The Air Force DCGS and the unit would continue to experience a high operations tempo, the combatant commander would be deprived of vital real-time data, and operational aircraft sorties and missions would have to be cancelled.

2.6 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

In addition to the proposed action, the Poplar Road and Sweeney Boulevard alternatives, and the no action alternative, other alternatives were evaluated and found to be infeasible or unreasonable and, therefore, eliminated from detailed consideration. These alternatives include:

- **Elm Street alternative** – Under this alternative, construction would occur along Elm Street with additional design and construction of a five-level 220,000-square-foot

parking garage. Additional parking would be constructed near the existing jogging tract but would require construction of a new pedestrian bridge across the existing drainage swale; the site proposed for construction of these facilities would be near wetlands and would require construction within the existing land development footprint in order to avoid impacts upon these wetlands. This location is near the base perimeter, requiring added security measures. Additionally, the 1st LRS Transportation Yard would require relocation to a new site to allow for development of the project within the existing developed footprint.

- **North Base Support Area alternative** – Under this alternative, construction would occur in a remote area identified for industrial development. Construction at this location would require construction of a new utility feeder loop (no utilities currently exist at the site) and a 175,000-square-foot, four-story parking garage; relocation of existing small arms training range with appropriate lead remediation; and tree removal. Additionally, the site is located within the 100-year floodplain, requiring elevation of the structures, and may impact existing wetlands. Due to the site location near the perimeter fence and its remote location, additional force protection measures would be required.
- **Weyland Road alternative** – Under this alternative, the new facility would be constructed on the east side of Weyland Road on a site currently occupied by baseball fields. A four-story 175,000-square-foot parking garage would also be required. This location would require the construction of a new utility service loop, since utility service in the proposed area is inadequate to support the new facilities. There are also known archaeological resources at the site, and construction of the new facilities would be incompatible with the historic structures located in the area. Traffic would increase, bringing conflicts with the residential nature of the site. The construction would also displace an existing soccer field. This site is also located within a 100-year floodplain and would impact existing wetlands, requiring mitigation.
- **Munitions Storage Area (MSA) alternative** – Under this alternative, the facility would be constructed in the vicinity of the MSA. This site is in a remote location of the base and would require construction and upgrade of utilities. Due to this remote location, required fire response times cannot be met, requiring construction of a new station on the north side of the base. There are currently no vehicle access routes to the site until a new NASA area access road can be constructed. There are known archaeological sites in the area, and wetlands would be displaced during construction, requiring mitigation. Trees would be removed to accommodate construction.

2.7 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

The Environmental Impact Analysis Process (EIAP) includes the review of all information pertinent to the proposed action and alternatives and provides a full and fair discussion of potential consequences to the natural and human environment. The process includes

involvement with the public and various government and private agencies to identify possible consequences of an action, as well as the focusing of analysis on environmental resources potentially affected by the proposed action, the alternatives, and the no action alternative.

2.7.1 Public and Agency Involvement

Executive Order 12372, Intergovernmental Review of Federal Programs, requires intergovernmental notifications prior to making a detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a proposed action. Copies of IICEP correspondence are included in Appendix A.

The Air Force has prepared and published an advertisement in the local newspaper, *The Daily Press*, announcing the availability of the draft EA for a 30-day public review. Copies of the draft EA have been provided to a VDEQ “single point of contact” to allow for review by appropriate state and local agencies. During the 30-day public review period no comments were received from the public.

2.7.2 Regulatory Compliance

This EA has been prepared to satisfy the requirements of NEPA (42 USC 4321-4347) and CEQ Regulations for Implementing the Procedural Provisions of NEPA. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. In addition, this document was prepared in accordance with 32 CFR Part 989, et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction [AFI] 32-7061), which implements Section 102 (2) of NEPA and regulations established by the CEQ (40 CFR 1500-1508).

Implementation of the proposed action or the alternatives would require concurrence from several regulatory agencies. Compliance with the Endangered Species Act of 1973 (ESA) involves communication with the Department of the Interior (delegated to the U.S. Fish and Wildlife Service [USFWS]) in cases where a federal action could affect the listed threatened or endangered species, species proposed for listing, or species that could be candidates for listing. A letter was sent to the appropriate USFWS offices, as well as their state counterparts, informing them of the proposed action and requesting data regarding applicable protected species. The preservation of cultural resources falls under the purview of the State Historic Preservation Office (SHPO), as mandated by the National Historic Preservation Act (NHPA) and its implementing regulations. VDEQ would provide the SHPO with a copy of the draft EA for review and coordination. Appendix A includes copies of relevant correspondence regarding protected species provided by interested agencies.

2.7.3 Permit Requirements

This EA has been prepared in compliance with NEPA; other federal statutes, such as the Clean Air Act (CAA) and the Clean Water Act; EOs, and applicable state statutes and regulations. Table 2-2 summarizes applicable federal, state, and local regulatory review and the potential for change to permits due to the proposed action and alternatives. This EA was not only prepared for the decision maker and the interested public, but it is also a tool for Air Force personnel to ensure compliance with all regulatory requirements from proposal through project implementation.

Table 2-2. Environmental-Related Regulatory Requirements

<i>Type of Permit or Regulatory Requirement</i>	<i>Requirement</i>	<i>Agency</i>
Clean Water Act	Virginia Stormwater Management Permit for Construction Activities	Commonwealth of Virginia Department of Conservation and Recreation (DCR)
United States Army Corps of Engineers (USACE) Section 404/Virginia Water Protection Permit	Required for authorizing fill within waters or wetlands regulated by state and/or federal law and regulation	USACE, Norfolk District; City of Hampton; Virginia Department of Environmental Quality (VDEQ), and Virginia Marine Resources Commission (VMRC)
Clean Air Act	Potential modification to Langley AFB synthetic minor permit	Virginia Department of Environmental Quality (VDEQ)
National Historic Preservation Act (NHPA) Section 106	Consultation with State Historic Preservation Office (SHPO) and Notification to Advisory Council on Historic Preservation (ACHP)	Virginia Department of Historic Resources
Coastal Consistency Determination	Determine consistency with the commonwealth's Coastal Zone Management Program	VDEQ

2.8 MITIGATION MEASURES

In accordance with 32 CFR Part 989.22, the Air Force must indicate if any mitigation measures would be needed to implement this proposal at the proposed action site. If the proposed action site were implemented, then wetland mitigation measures will be needed to arrive at a FONSI or a FONPA and a wetland mitigation plan would be required within 90 days of FONSI/FONPA signature.

2.9 COMPARISON OF ALTERNATIVES

Table 2-3 summarizes the potential environmental impacts of the proposed action and alternatives, based on the impact analyses presented in Chapter 4.0. The proposed action would have no significant environmental consequences in any resource category.

Table 2-3. Summary of Potential Environmental Impacts of the Proposed Action and Alternatives

<i>Resource</i>	<i>Proposed Action</i>	<i>Poplar Road Alternative</i>	<i>Sweeney Boulevard Alternative</i>	<i>No Action Alternative</i>
Land Use	+	+	-	-
Transportation	-	-	-	0
Visual Resources	-	-	+	0
Cultural Resources	0	0	0	0
Biological Resources	-	-	0	0
Water Resources	-	-	-	0
Hazardous Materials and Waste Management	-	-	-	0
Safety	-	-	-	-
Noise	-	-	-	0
Air Quality	-	-	-	0
Socioeconomics	+	+	+	-
<i>Notes: - = adverse but not significant impact; + = positive/beneficial impact; 0 = no change</i>				

3.0 AFFECTED ENVIRONMENT

This chapter describes relevant existing environmental conditions at Langley AFB for resources potentially affected by the proposed action, the Poplar Road and Sweeney Boulevard alternatives, and the no action alternative described in Chapter 2.0. In compliance with guidelines contained in the NEPA and CEQ regulations, the description of the existing environment focuses on those environmental resources potentially subject to impacts. These resources and conditions are land use, including transportation and visual resources; cultural resources; biological resources; water resources; hazardous materials and waste management; safety; noise; air quality; and socioeconomics. The expected geographic scope of potential impacts, known as the region of influence, is defined for each resource analyzed.

RESOURCES ELIMINATED FROM DETAILED CONSIDERATION

Two resources were not evaluated in this EA because it was determined that implementation of the proposed action is unlikely to affect them. These resources include airspace and environmental justice. A brief explanation of the reasons why each resource has been eliminated from further consideration in this EA is provided below.

Airspace. Airspace was eliminated from further consideration since neither the proposed action nor alternatives would impact aircraft operations or modifications to airspace.

Environmental Justice. Environmental justice concerns the disproportionate effect of a federal action on low-income or minority populations. The existence of disproportionately high and significant impacts depends on the nature and magnitude of the effects identified for each of the individual resources. If implementation of the proposed action and the alternatives were to have the potential to significantly affect people, these effects would have to be evaluated for how they adversely or disproportionately affect low-income or minority communities. Because no significant effects would result from the proposed action or the alternatives, neither minority nor low-income groups would be affected disproportionately. Therefore, environmental justice issues were eliminated from further analysis.

3.1 LAND USE, TRANSPORTATION, AND VISUAL RESOURCES

3.1.1 Definition of the Resource

The attributes of land use addressed in this analysis include land use, transportation, and visual resources. Land use focuses on general land use patterns, as well as management plans, policies, ordinances, and regulations. These provisions determine the types of uses that are allowable and identify appropriate design and demolition and construction standards to address specially designated or environmentally sensitive areas. Transportation addresses roads and vehicle circulation. Visual resources are identified as the natural and manufactured

features that constitute the aesthetic qualities of an area. The ROI for land use resources consists of Langley AFB.

3.1.2 Existing Conditions

LAND USE

Land uses on Langley AFB are grouped by function in distinct geographic areas. For example, aircraft operations and maintenance facilities are located in the southern portion of the base. The residential areas on base are located along the Back River in the southeastern and northeastern portions of the base.

Adopted plans and programs guide land use planning for Langley AFB. Base plans and studies present factors affecting both on- and off-base land use and include recommendations to assist on-base officials and local community leaders in ensuring compatible development. The Base General Plan (Air Force, 2003) provides an overall perspective concerning development opportunities and constraints. Area development plans, part of the General Plan, provide focused information on the future organization and circulation of personnel, buildings, and equipment within portions of the base. As part of a new ACC initiative to zone lands within each base, the proposed action location is designated administrative, the Poplar Road location for the DCGS facility is designated for light industrial use, and the Sweeney Boulevard location is designated for aircraft operations and maintenance.

The base's *Integrated Natural Resource Management Plan* (Air Force 1998) is used to coordinate natural resource management. Langley's *Urban Forest Inventory Review and Management Plan* (Davey Resource Group 1997) is an important component of this plan. Trees are an integral component of the base's urban environment, with their shade and beauty contributing to the quality of life and moderating the hard appearance of concrete structures and streets. Trees also help stabilize the soil by controlling wind and water erosion, reducing noise levels, and cleansing pollutants from the air. Trees also provide significant economic benefits. Several studies have shown that properly placed trees provide shade and act as windbreaks, helping to decrease energy consumption. Trees return overall benefits and value far in excess of the time and money invested in them for planting, pruning, care, and removal. Langley AFB officials have recognized these benefits and realize the need to protect their investment with a comprehensive, urban forest management program.

The Coastal Zone Management Act (CZMA) was enacted to develop a national coastal management program that comprehensively manages and balances competing uses of land impacts to any coastal use or resource. The CZMA federal consistency requirement (CZMA Section 307) mandates that federal agency activities be consistent, to the maximum extent practicable, with the enforceable policies of a state management program. The federal consistency requirement applies when any federal activity, regardless of location, affects any land or water use or natural resource of the coastal zone. The question of whether a specific

federal agency activity may affect any natural resource, land use, or water use in the coastal zone is determined by the federal agency.

VDEQ oversees activities in the coastal zone of the commonwealth through a number of enforceable programs. In reviewing this proposal, VDEQ may require agencies to coordinate with its specific divisions or other agencies for consultation or to obtain permits; it also may comment on environmental impacts and mitigation. VDEQ enforceable programs and policies pertain to fisheries management, subaqueous lands management, wetlands management, dunes management, non-point-source pollution control, point-source pollution control, shoreline sanitation, air pollution control, and coastal lands management. The Chesapeake Bay Local Assistance Department regulates activities in the Chesapeake Bay Resource Management Areas and Resource Protection Areas.

TRANSPORTATION

Langley AFB is accessed from Interstate 64 (I-64) via Armistead Avenue to the west of the base, and from Mercury Boulevard (United States [U.S.] Route 258/Virginia State Route [SR] 32), via LaSalle Avenue (SR 167) or King Street (SR 278). Langley AFB has a network of streets that provide access to all base facilities. Nealy Avenue begins at the Main Gate and continues northeast through the installation. Sweeney Boulevard is the primary east-west corridor linking directly to the West Gate at Armistead Avenue and has three lanes (center lane reversible) from the gate to the intersection with Nealy Avenue/Hammond Avenue. Construction is underway to widen Sweeney Boulevard to four lanes from Elm Street to the West Gate. In the 500-foot section of Sweeney Boulevard in the vicinity of the existing DCGS facility, there are four driveways and Oak Street. Parking in some on-base areas is limited. The combination of Ward Road, Clarke Avenue, Weyland Road, and Lee Road comprise the “base perimeter road.”

Langley AFB personnel and visitors approaching the proposed action location and the alternative site on Poplar Road from the west, including airman from the community center portion of the base, would use the two-lane base perimeter road (Lee and Weyland Roads). From the ACC portion of the base, personnel would use a combination of Ward and Weyland Roads to access these sites. Access to the Sweeney Boulevard alternative site would be off Holly Street, a two-lane road, which intersects with Sweeney Boulevard at a signalized four-way intersection and from a new driveway directly connected to Sweeney Boulevard.

VISUAL RESOURCES

Langley AFB is located in the city of Hampton near the southern end of the lower Virginia Peninsula, between the Northwest and Southwest Branches of the Back River, a branch of the Chesapeake Bay. The base is in the Coastal Plain physiographic province on Hampton Flat, a nearly flat plain that gently slopes toward the east, with elevations between 5 and 11 feet above mean sea level (MSL).

The main base occupies 2,883 acres of the total site. The largest structures on base are the aircraft operations and maintenance facilities located in the southern portion of the base. The

National Aeronautics and Space Administration (NASA) operates a facility complex situated in the northwestern, southern, and southeastern portion of the base. The large wind tunnels and aeronautical test equipment that compose the NASA facility resemble a large industrial area. A number of older buildings on base, such as the Albert Kahn-designed hangars, give the base a character reflecting its history as an important air base from the beginning of the aviation era.

The proposed action location is currently used as horse pasture with Security Forces facilities to the north, temporary lodging facilities and the Education Center to the east, a wetlands area to the northwest and the base fire training area to the west.

The forested DCGS site on Poplar Road is bordered on the east by a ditch associated with the Northwest Branch of the Back River and open airfield; it is bordered on the south by base communication facilities and is bordered on the west by a forested area and the base Golf Course. Across Weyland Road to the north is also base Golf Course. The Sweeney Boulevard alternative site is set among a variety of base support and airfield operations and maintenance facilities that have been constructed with a variety of building design features in accordance with Langley AFB architectural standards.

Much of the vegetation on base was planted at the time of the base's original construction (circa 1916). Towering oak trees are the dominant species of trees in the Langley Field Historic District. They have been used mainly as street plantings and as decorative plantings around many buildings. Significant trees are a part of the historic character of the base; therefore, standard landscaping practices would be used to alleviate harming the trees as much as possible. An aerial photograph of the base, taken in the early 1960s, shows the Poplar Road alternative site as an open field.

3.2 CULTURAL RESOURCES

3.2.1 Definition of the Resource

Cultural resources are defined as any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, or religious reasons. They can be divided into three categories: archaeological, architectural/engineering, and traditional. *Archaeological resources* are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains.

Architectural/engineering resources include standing buildings, dams, canals, bridges, and other structures of historic significance. Architectural/engineering resources generally must be more than 50 years old to be considered for inclusion in the National Register of Historic Places. However, more recent structures, such as Cold War era resources, may warrant protection if they manifest "exceptional significance" or the potential to gain significance in the future. *Traditional resources* are resources associated with cultural practices and beliefs of a living community that are rooted in its history and are important in maintaining the continuing cultural identity of the community.

The ROI for cultural resources is the area within which the proposed action and the no action alternative have the potential to affect existing or potentially occurring archaeological, architectural, or traditional resources. For the proposed action, the Sweeney Boulevard alternative, or the no action alternative, the ROI is defined as Langley AFB.

3.2.2 Existing Conditions

Archaeological surveys at Langley AFB have examined 821 acres (28 percent) of the base, locating a total of 15 archaeological sites (USACE 2004, Air Force 2004a) within the base boundaries and another three immediately adjacent to the base. A comprehensive archaeological resource overview produced a base sensitivity map, which indicated that most of Langley AFB had been disturbed by construction or other impacts (USACE 2004). Survey of a portion of the area where construction would occur under the proposed action and at the Poplar Road alternative location revealed no archaeological resources; furthermore, this region is considered to have a low sensitivity for the presence of cultural resources (USACE 2004). No archaeological survey has occurred within the Sweeney Boulevard alternative area, although this portion of Langley AFB is also considered to have a low sensitivity for the presence of archaeological resources (USACE 2004).

The NRHP-eligible Langley Field Historic District encompasses the eastern part of the base including the lighter-than-air (LTA) and heavier-than-air (HTA) areas (HQ TAC 1992). It includes nearly 250 contributing and noncontributing historic properties.

The areas where the proposed action and the Poplar Road and Sweeney Boulevard alternatives would occur are outside of the historic district. Six buildings that could be affected by the proposed action and Poplar Road Alternative and the Sweeney Boulevard alternative date to the Cold War era, and one is more than 50 years old (Table 3-1). These buildings have all been extensively modified, and none have been identified as embodying the exceptional significance that would make them eligible for listing on the NRHP, based on either age or Cold War affiliation (USACE 2004).

**Table 3-1. Proposed Action and Sweeney Boulevard Site Alternative:
Facilities Proposed for Demolition and Reuse**

<i>Building Number</i>	<i>Year Built</i>	<i>Proposed Action/Poplar Road Alternative</i>	<i>Sweeney Blvd Alternative</i>	<i>NRHP Status</i>
326	1957	Vacate	Demolish	Not eligible
329	1969	Vacate	Demolish	Not eligible
333	1956	Vacate	Demolish	Not eligible
337	1976	Vacate	Demolish	Not eligible
338	1954	Vacate, turn over to 1 FW	Vacate, turn over to 1 FW	Not eligible
339	1956	Vacate	Demolish	Not eligible

**Table 3-1. Proposed Action and Sweeney Boulevard Site Alternative:
Facilities Proposed for Demolition and Reuse, Cont'd**

<i>Building Number</i>	<i>Year Built</i>	<i>Proposed Action/Poplar Road Alternative</i>	<i>Sweeney Blvd Alternative</i>	<i>NRHP Status</i>
1390	1989	Demolish for Poplar Road Alt.	Not part of alternative	Not eligible
1395	1997	Demolish for Poplar Road Alt.	Not part of alternative	Not eligible

No traditional resources or Native American issues have been identified for this project location on Langley AFB (USACE 2004). No federally recognized Indian tribes or lands are located in Virginia.

3.3 BIOLOGICAL RESOURCES

3.3.1 Definition of the Resource

For purposes of the impact analysis, biological resources are divided into three major categories: (1) terrestrial communities, (2) wetland and freshwater aquatic communities, and (3) threatened, endangered, and special status species/communities. The ROI for biological resources includes Langley AFB and the specific areas associated with the proposed action and the two alternative locations.

3.3.2 Existing Conditions

TERRESTRIAL COMMUNITIES

Only a relatively small portion of Langley AFB is forested or remains in its natural state. Plant communities include approximately 250 acres of mixed oak-hickory hardwood forests, 60 acres of 60-year-old planted loblolly pine forests, 450 acres of tidal salt marshes, and an undetermined amount of old-field successional areas. The remaining portions of the base consist of managed lawns and developed areas of buildings, structures, and pavement. The area surrounding the site proposed for the DCGS system consists of horse pasture. The Langley AFB Golf Course is also situated to the west of the site.

Wildlife on the base are widespread species that are habitat generalists or tolerant of disturbance. This includes a wide variety of game and fur-bearing species, small mammals, waterfowl, songbirds, raptors, amphibians, reptiles, and fish. The proximity of the base to estuarine and marine habitats of Chesapeake Bay provides habitat for a variety of neotropical migrants and waterfowl.

WETLAND AND FRESHWATER AQUATIC COMMUNITIES

Wetlands are areas of transition between terrestrial and aquatic systems where the water table is usually at, or near, the surface, or the land is covered by shallow water (USFWS 1979).

Wetlands are often categorized by water patterns (the frequency or duration of flooding) and location in relation to upland areas and water bodies. Wetland hydrology is considered one of the most important factors in establishing and maintaining wetland processes (Mitsch 2000).

Wetlands are defined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (1987) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USACE 1987). These resources are protected under Section 404 of the Clean Water Act (33 USC Section 1344) and at the state level under Section 401 pursuant to Chapter 13 of Title 28.2, Code of Virginia. Wetlands on federal lands are further protected under EO 11990, which states “...each federal agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands....”

Langley AFB supports a total (influenced by seasonal fluctuations) of 652 acres of wetlands, of which 462 acres are estuarine wetlands and 190 acres are Palustrine wetlands (Air Force 1998). Wetlands are very beneficial because of their ability to store and filter stormwater, provide habitat, and naturally control shoreline and stream bank erosion. These areas are usually characterized by poorly drained soils and exhibit vegetation characteristics of wet environments. A wetland delineation of the entire base, conducted in late 2000 and verified by the USACE-Norfolk District on January 22, 2004, under Project Number 01-R-2076 (Air Force 2001, USACE 2004), revealed the various emergent (saline/brackish/freshwater), scrub/shrub, and forested wetland systems at Langley AFB. Wetland and freshwater aquatic communities are depicted in Figure 3-1. Delineated wetlands are located within the proposed action location and in the drainage ditch that runs along the eastern edge of the Poplar Road alternative site. No delineated wetlands are within the Sweeney Boulevard alternative location.

Langley AFB has restored and stabilized portions of the shoreline adjacent to the Northwest and Southwest Branches of Back River using noninvasive, emergent vegetation such as saltmarsh cordgrass (*Spartina alterniflora*) and saltmeadow cordgrass (*Spartina patens*) (personal communication, Goss 2005). The Willoughby Point Area was not included in this project. This restoration effort has resulted in a more erosion-resistant shoreline, improve water quality, and promotes the unique estuarine ecosystem of Chesapeake Bay (Air Force 2001).

THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES/COMMUNITIES

Table 3-2 presents Threatened, Endangered and Special Status Species that have the potential to occur within a 10-mile radius of Langley AFB. No critical habitat occurs on base. Langley AFB provides habitat for one federally listed threatened species: the bald eagle. Surveys conducted in 1993 and 1994 indicated that foraging by bald eagles occurs to a limited extent within creeks and marshes of the base. Habitat suitable for nesting or roosting occurs among the loblolly

pinus on the northern side of the base, but no nesting or long-term roosting has ever been observed. Uniform age/size structure of loblolly pine stands may limit use of the base as nesting or roosting habitat (Barrera 1995). Also, a federally listed threatened species, the northeastern beach tiger beetle, has no record of occurrence on base; it typically inhabits broad sandy beaches and has become a species of concern within the Chesapeake Bay ecosystem. Additionally, the federally listed threatened species, the piping plover, is associated with sandy beaches, which are not found on Langley AFB.

Virginia threatened and endangered species include eight state-threatened and six endangered species as shown in Table 3-2. The Canebrake rattlesnake has been found along the shore of the Southwest Branch of the Back River and is not expected to occur within the project area.

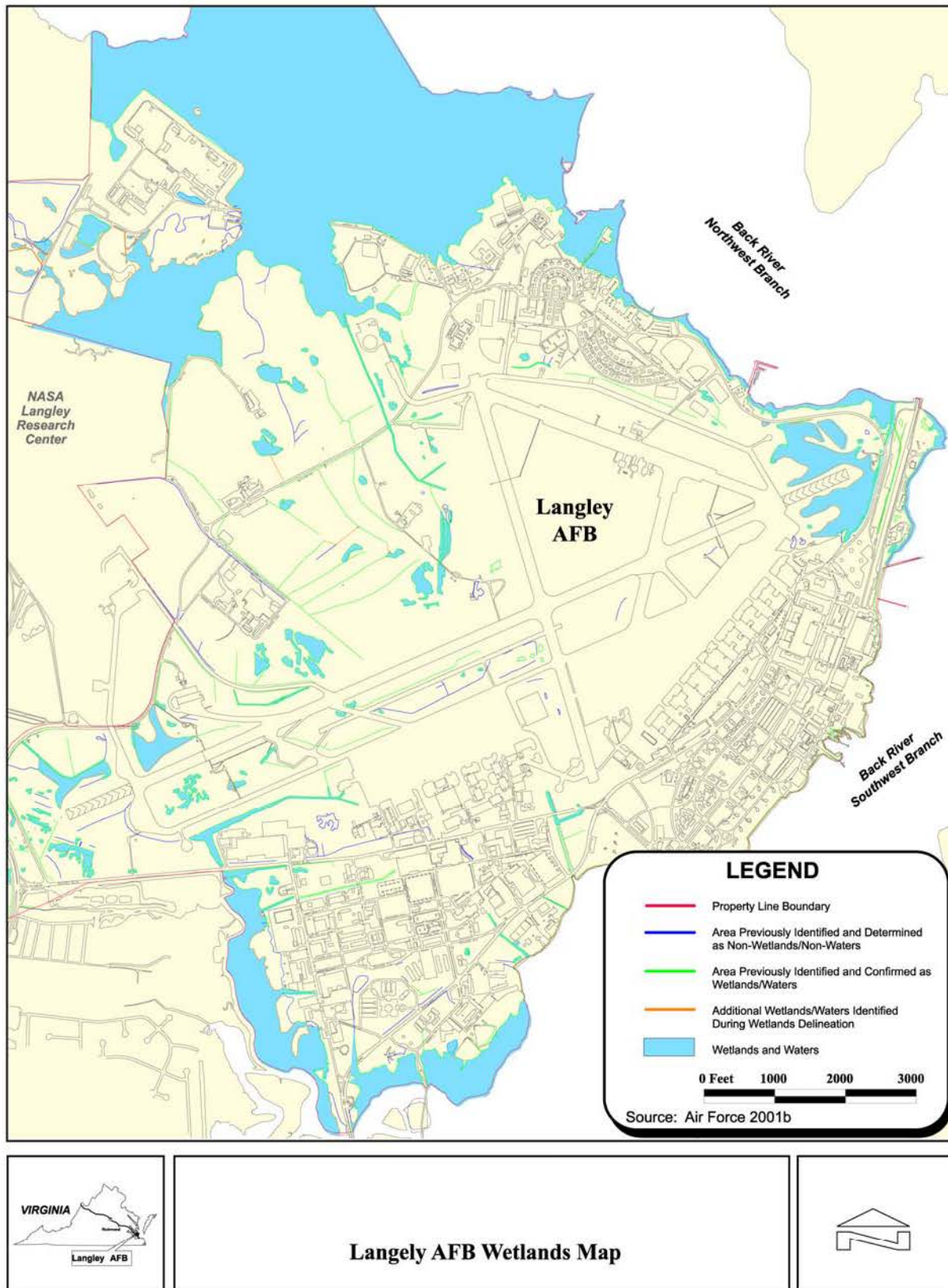


Figure 3-1. Langley AFB Wetlands Map

Table 3-2. Threatened, Endangered, and Special-Status Species/Communities that Potentially Occur on Langley AFB

Species	Status	Areas of Concern
REPTILES		
Canebrake rattlesnake <i>Crotalus horridus atricaudatus</i>	SE	Meadows, canebrake or “green sea” wetlands. At risk because of wetland loss. Swampy areas, canebrake thickets, and floodplains.
Kemp’s ridley sea turtle <i>Lepidochelys kempii</i>	FE/SE	Atlantic Coast and throughout the Chesapeake Bay, shallow near shore grass beds.
Leatherback sea turtle <i>Dermochelys coriacea</i>	FE/SE	Atlantic coast and mouth of Chesapeake Bay and estuarine rivers.
Loggerhead sea turtle <i>Caretta caretta</i>	FT/ST	Atlantic coast and mouth of Chesapeake Bay and estuarine rivers and marshes.
Green sea turtle <i>Chelonia mydas</i>	FT/ST	Shallow waters of lower Chesapeake Bay, seagrass flats.
Northern diamond-backed terrapin <i>Malaclemys terrapin terrapin</i>	FS	Prefers the brackish water of estuaries, tidal marshes, and the tidal portions of rivers. It is sometimes seen in the Atlantic Ocean. Nesting occurs on sandy beaches or dunes.
BIRDS		
Bald eagle <i>Haliaeetus leucocephalus</i>	FT/SE	Forages occasionally on base. Nests within 3 miles of the base.
Black rail <i>Laterallus jamaicensis</i>	FS	Prefers dry fields but shares salt marsh meadows with waterfowl, also found along inland tidal creeks and marshes.
Cerulean warbler <i>Dendroica cerulean</i>	FS	Breeds in swamps and bottomlands, prefers open stands of tall trees along riverbanks or dense deciduous forests with little undergrowth.
Peregrine falcon <i>Falco peregrinus</i>	SE	Observed foraging over salt marshes on base. Open wetlands near cliffs.
Piping plover <i>Charadrius melodus</i>	FT/ST	Prefers areas with expansive sand or mudflats (for foraging) in close proximity to a sand beach (for roosting). Fifty-two designated critical habitat units from North Carolina south to northern Florida along mainland beaches and barrier islands.
Loggerhead shrike <i>Lanius ludovicianus</i>	ST	Prefers open, short-leaved grasslands with an abundance of perching sites such as fences, woody vegetation, or hedgerows. Usually nests in eastern redcedar or hawthorne.

Table 3-2. Threatened, Endangered, and Special-Status Species/Communities that Potentially Occur on Langley AFB Cont'd

BIRDS (CONT'D)		
Migrant loggerhead shrike <i>Lanius ludovicianus migrans</i>	FS/ST	Prefers open, short-leaved grasslands with an abundance of perching sites such as fences, woody vegetation, or hedgerows. Usually nests in eastern redcedar or hawthorne.
Upland sandpiper <i>Bartramia longicauda</i>	ST	Breeds in open pastures or grassy fields, often hayfields, alfalfa, or clover, occasionally in open forests. Needs extensive grass areas with grasses 1 to 3 feet high.
FISH		
Atlantic sturgeon <i>Acipenser oxyrhynchus</i>	FS/SS	Juvenile Atlantic sturgeon may spend several years in fresh water of some large rivers, while others may move downstream to brackish waters when temperatures drop in the fall. Breeds in nearshore waters with solid substrates with depths of less than 20 meters.
PLANTS		
Harper's fimbriatylis <i>Fimbristylis perpusill</i>	SE	Coastal seasonal ponds.
Virginia least trillium <i>Trillium pusillum</i> var. <i>virginianum</i>	FS	Forested wetlands and mesic woods including the "green sea" wetlands. Recorded from the city of Hampton.
INVERTEBRATES		
Northeastern beach tiger beetle <i>Cicindela dorsalis dorsalis</i>	FT	Broad beaches with well-developed sand dunes.
AMPHIBIANS		
Barking treefrog <i>Hyla gratiosa</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Base at northern edge of range. Spends warm months in treetops, seeks moisture during dry periods by burrowing among tree roots and clumps of vegetation.
Mabee's salamander <i>Ambystoma mabeei</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Tupelo and cypress bottoms in pine woods, open fields, and lowland deciduous forest.

Notes: FE = federal endangered

SE = state endangered

FT = federal threatened

ST = state threatened

FS = federal species of concern

SS = state species of concern

Source: Virginia Fish and Wildlife Information Service 2005

The USFWS, Virginia Field Office, was notified of the proposal (see Appendix A), and the Virginia Department of Conservation and Recreation's National Heritage website for rare, threatened, and endangered plants and animals (DCR 2005) was reviewed for species that may potentially occur within a 10-mile radius of Langley AFB to complete Table 3-2.

3.4 WATER RESOURCES

3.4.1 Definition of the Resource

Water resources include surface and groundwater features located within the base as well as watershed areas affected by existing and potential runoff from the base, including floodplains. The ROI is defined as the base and the immediate vicinity.

3.4.2 Existing Conditions

Langley AFB occupies a flat lowland peninsula with a gentle eastward slope of 1 foot per mile and elevations of 5 to 11 feet MSL within the Atlantic Coastal Plain physiographic province. The base is bounded on the northeast side by the Northwest Branch of the Back River and on the southeast side by the Southwest Branch of the Back River, which flows into the Chesapeake Bay. Stormwater drainage is carried by a series of pipes, box culverts, and open ditches to 53 outfalls with 22 outfalls associated with areas that contain industrial operations. The base has been issued a Virginia Pollutant Discharge Permit (No. VA0083194) that expires on May 2, 2010. This permit identifies effluent limitations and requires semi-annual sampling and management of industrial runoff.

In the Langley AFB area, groundwater occurs in a shallow water table aquifer, an upper artesian aquifer system, and the principal artesian aquifer system. All three aquifers in this area contain water of moderate to poor quality due to high salinity and total dissolved solids; the aquifers have little or no potential for a conventional water supply (Air Force 2000a).

Due to its proximity to the Back River and the Chesapeake Bay, much of Langley AFB lies within the 100-year floodplain. Langley AFB is susceptible to high tide surges during storms and spring tides, and flooding is sometimes severe on the base. Figure 3-2 illustrates the extent of the 100-year floodplain on Langley AFB.

The proposed action and the alternative sites evaluated in this EA are located in the 100-year floodplain. An examination of Figure 3-2 indicates that there are no alternative locations available within the cantonment area that is above the 100-year floodplain. Areas above the 100-year floodplain are located within the clear zone on the western end of the runway and at a few small locations on the north side of the base, away from existing infrastructure.

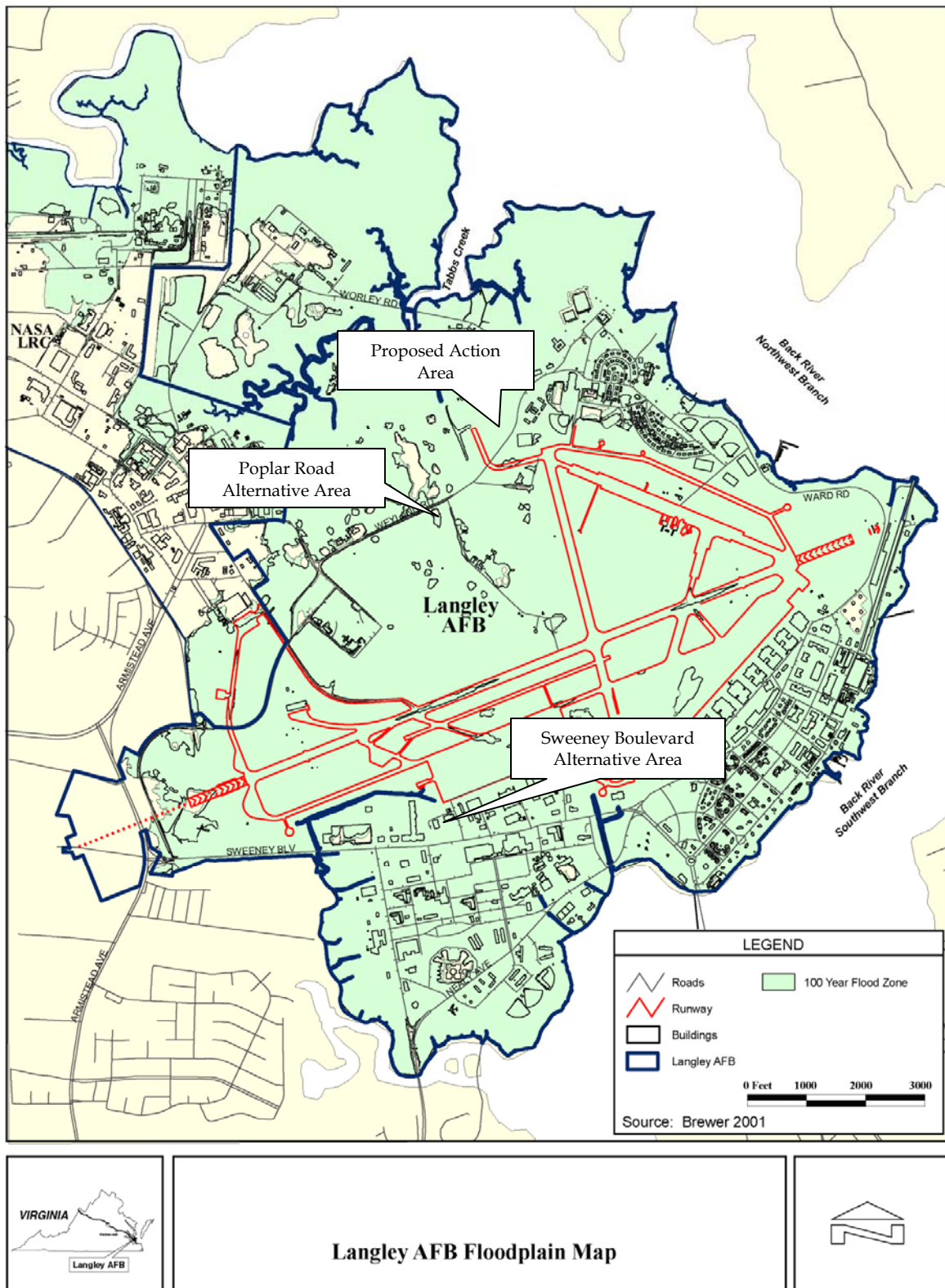


Figure 3-2. Langley AFB Floodplain Map

3.5 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

3.5.1 Definition of the Resource

Hazardous materials are identified and regulated under the Comprehensive Environmental Response, Compensation, and Liability Act; the Occupational Safety and Health Administration (OSHA); and the Emergency Planning and Community Right-to-Know Act. Hazardous materials have been defined in AFI 32-7086, Hazardous Materials Management, to include any substance with special characteristics that could harm people, plants, or animals. Hazardous waste is defined in the Resource Conservation and Recovery Act as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment. Waste may be classified as hazardous because of its toxicity, reactivity, ignitability, or corrosivity. In addition, certain types of waste are “listed” or identified as hazardous in 40 CFR 263. The ROI for this resource is defined as Langley AFB.

3.5.2 Existing Conditions

Hazardous Materials

The majority of hazardous materials used by Air Force and contractor personnel at Langley AFB are controlled through an Air Force pollution prevention process called HAZMART. This process provides centralized management of the procurement, handling, storage, and issuing of hazardous materials and turn-in, recovery, reuse, or recycling of hazardous materials. The HAZMART process includes review and approval by Air Force personnel to ensure users are aware of exposure and safety risks. Pollution prevention measures are likely to minimize chemical exposure to employees, reduce potential environmental impacts, and reduce costs for material purchasing and waste disposal.

Hazardous Waste

Langley AFB is a large-quantity hazardous waste generator. Hazardous wastes generated during operations and maintenance activities include solvents, metal-contaminated spent acids, and sludge from wash racks. Langley AFB recycles all lubricating fluids, batteries, oil filters, and shop rags. Hazardous wastes are managed in accordance with the *Langley AFB Hazardous Waste Management Plan*. 1 CES/CEVC must review and sign manifests prior to a hazardous waste being disposed of offsite. Facility 1390/1395 serves as a less-than-90-day facility to collect hazardous waste from all initial accumulation points (personal communication, Hailey 2004).

Langley AFB has a Spill Prevention and Facility Response Plan (revised in February 2006). The plan meets the Federal Spill Prevention Control and Countermeasures requirements, the Virginia Oil Discharge Contingency Plan requirements, and the Coast Guard requirements.

STORAGE TANKS

No storage tanks are associated with the proposed action site and Poplar Road sites. There are three abandoned underground storage tanks (USTs) and two active USTs associated with the Sweeney Boulevard alternative site. There also was one 1,000-gallon UST removed that serviced Building 329. Information concerning these tanks is presented in Table 3-3.

Table 3-3. Existing Storage Tanks at the Sweeney Boulevard Alternative Site

<i>Tank ID</i>	<i>Tank Type</i>	<i>Stats</i>	<i>Size</i>	<i>Fuel</i>
326	UST	Abandoned	25,000	Heating oil
333.1	UST	Abandoned	1,000	Heating oil
333.2	AST	Active	1,000	Diesel
339	UST	Abandoned	1,000	Heating oil
339.1	AST	Active	1,000	Diesel
<i>Source:</i> Personal communication, Wiker 2005				
AST = aboveground storage tank				

ENVIRONMENTAL RESTORATION PROGRAM

The Department of Defense developed the ERP to identify, investigate, and remediate potentially hazardous material disposal sites that existed on DoD property prior to 1984. Forty-eight ERP sites, including one at Bethel Manor Housing, have been identified since the ERP began at Langley AFB. In addition, eight areas of concern (AOCs) have also been identified. Of the 48 sites, 37 have been closed or require no further action, seven are in the cleanup phase, and four sites are under study. The *Langley AFB Management Action Plan* (Air Force 2004b) summarizes the current status of the base environmental programs and presents a comprehensive strategy for implementing actions necessary to protect human health and the environment. This strategy integrates activities under the ERP and the associated environmental compliance programs that support full restoration of the base.

ACC policy requires that any proposed project on or near a Langley AFB ERP site be coordinated through the Langley ERP manager. ERP Site Range Site ED 147/AOC 147 is a former bombing range that has been acknowledged since the inception of the ERP. This range is located in the north-central part of the base and includes the areas occupied by the golf course clubhouse, maintenance building, and the driving range which are immediately adjacent to this location.

An abandoned fire training area, ERP Site FT-41 is adjacent to this site. This site was used from the 1960s to 1984 and added to the ERP list in 1981. Used oils, fuels, and solvents were dumped and then burned at the site. Although this is still an active ERP site, no adverse impacts from implementation of the proposed action at this location would be anticipated provided the Langley ERP manager follows procedural guidelines in conjunction with ACC and USEPA directives.

SOLID WASTE MANAGEMENT

Solid waste generated on Langley AFB is removed by contract services to either the city of Hampton's Bethel Sanitary Landfill or to the Hampton Waste-to-Energy facility for incineration. In FY 2003, the base generated 3,685 tons of solid waste and diverted 1,928 tons through recycling and composting activities. The base also generated 4,131 tons of construction and demolition debris and was able to recycle 2,890 tons of the debris. Big Bethel is a sanitary landfill, but it also accepts construction and demolition waste. In 2003, this facility received 574,386 tons of waste of all types. With a total capacity of about 27,953,000 tons, it has a remaining useful life of about 49 years (VDEQ 2004). In addition, there are four dedicated construction/demolition waste disposal landfills in the Hampton Roads area (Table 3-4). Their combined capacity is 1,970,686 tons. These facilities together received 284,162 tons of construction and demolition waste in 2003 and have a collective remaining useful life of about 6.1 years.

Table 3-4. Capacity, Disposal Rates, and Remaining Useful Life (RUL) for Construction-Demolition Waste Disposal Facilities in Hampton Roads

<i>Name</i>	<i>Permit</i>	<i>Location</i>	<i>Capacity (tons)</i>	<i>2003 Disposal (tons)</i>	<i>RUL</i>
Craney Island Landfill	041	Portsmouth	1,279,970	75,267	17.0
Higgerson-Buchanan Inc.	493	Chesapeake	593,516	133,640	4.4
Waltrip Landfill	322	James City	7,200	3,929	1.8
Wolftrap Operations Inc. Debris Landfill	436	York County	90,000	71,326	1.3
Total for Hampton Roads			1,970,686	284,162	6.1 ¹
Total for Virginia			18,054,541	2,455,035	7.4

¹ This is the combined (average) RUL for the four facilities, not the sum of their individual RULs.
Source: VDEQ 2004

Asbestos Waste/Lead-Based Paint

An asbestos management plan provides guidance for the identification of asbestos-containing materials (ACM) and the management of asbestos. The 1 FW *Asbestos Management and Operations Plan* provides guidance on the management of asbestos. An asbestos facility register is maintained by Civil Engineering. Persons inspecting, designing, or conducting asbestos response actions in public or commercial buildings must be properly trained and accredited through an applicable asbestos training program. The design of building alteration projects and requests for self-help projects are reviewed to determine if asbestos-contaminated materials are present in the proposed work area and, if so, are disposed of in an off-base permitted landfill.

The 1 FW *Lead-Based Paint Management and Operations Plan* contains policies and procedures associated with the management of lead-based paint. The plan is designed to establish operations and management organizational responsibilities and procedures so that personnel at

Langley AFB are not exposed to excessive levels of lead-contaminated dust or soils. Plan components identify management actions for worker training, notification, and labeling, the Langley AFB Work Request program, record-keeping, personal protective equipment, construction inspection, the disposal of LBP-containing wastes, and lead toxicity investigations (Air Force 2003). Given the ages of Buildings 326, 329, 333, 338, and 339, lead-based paint may be present. If lead-based paint is to be disposed of, the contractor must first have 1 CES/CEVC review the hazardous waste manifest.

3.6 SAFETY

3.6.1 Definition of the Resource

This section addresses ground and explosive safety issues associated with activities conducted by units stationed at, or operating from, Langley AFB. Ground safety considers issues associated with operations and maintenance activities that support base and flight operations, including fire and crash response. Explosive safety discusses the management and use of ordnance or munitions associated with airbase operations and training activities conducted in various elements of training airspace. The ROI for safety includes Langley AFB and the immediate vicinity.

3.6.2 Existing Conditions

GROUND SAFETY

Day-to-day operations and maintenance activities conducted on Langley AFB are performed in accordance with applicable Air Force safety regulations, published Air Force technical orders, and standards prescribed by Air Force Occupational Safety and Health requirements. Safety issues related to the proposed action focus on factors affecting demolition. All contractors performing demolition and construction on Langley AFB are responsible for following safety regulations and worker compensation programs and are required to conduct construction or demolition activities in a manner that does not pose a risk to their workers or Langley AFB personnel. In addition, Langley AFB has established an industrial hygiene program that addresses exposure to hazardous materials, use of personal protective equipment, and the availability of material safety data sheets. Contractor personnel are required to follow this program.

EXPLOSIVES SAFETY

Defense Department Explosives Safety Board (DDESB) 6055.9-STD and AFM 91-201 Explosives Safety Standards represents DoD and the Air Force guidelines for complying with explosives safety. These regulations, as well as AFI 91-204, identify explosive safety mishaps involved in both explosive and chemical agents. Explosives include ammunition, propellants (solid and liquid), pyrotechnics, explosives, warheads, explosive devices, and chemical agent substances

and associated components presenting real or potential hazards to life, property, or the environment.

Siting requirements for munitions and ammunition storage and handling facilities are based on safety and security criteria. DDESB 6055.9 STD and AFM 91-201 Explosives Safety Standards require that defined distances be maintained between munitions storage areas and a variety of other types of facilities. These distances, called quantity-distance arcs, are determined by the type and quantity of explosive material to be stored. Each explosive material storage or handling facility has Q-D arcs extending outward from its sides and corners for a prescribed distance. Within these Q-D arcs, development is either restricted or prohibited altogether to ensure safety of personnel and minimize potential for damage to other facilities in the event of an accident. In addition, explosive material storage and handling facilities must be located in areas where security of the munitions can be maintained at all times. Identifying the Q-D arcs ensures that construction does not occur within these areas.

3.7 NOISE

3.7.1 Definition of the Resource

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise varies according to the type and characteristics of the noise source distance between source and receptor, receptor sensitivity, and time of day. The ROI for noise includes the area surrounding the project location.

3.7.2 Existing Conditions

At Langley AFB, noise contributions from aircraft operations and ground engine run-ups at the airfield have been calculated using the NOISEMAP model, the standard noise estimation methodology used for military airfields. NOISEMAP uses the following data to develop noise contours: aircraft types, runway utilization patterns, engine power settings, airspeeds, altitude profiles, flight track locations, number of operations per flight track, engine run-ups, and time of day. The current Air Installation Compatible Use Zone study indicates that the proposed action location for DCGS is within the 70-to-75 dB day-night average sound level (DNL) noise contours, and the DCGS location on Poplar Road is located in the 70-to-75 and 75-to-80 dB DNL noise contours, while the Sweeney Boulevard location is within the 80-to-85 dB DNL noise contours (Air Force 1997). Figure 3-3 presents the location of the proposed action, and the two action alternatives in relation to the noise contours published in the current AICUZ study (Air Force 1997).

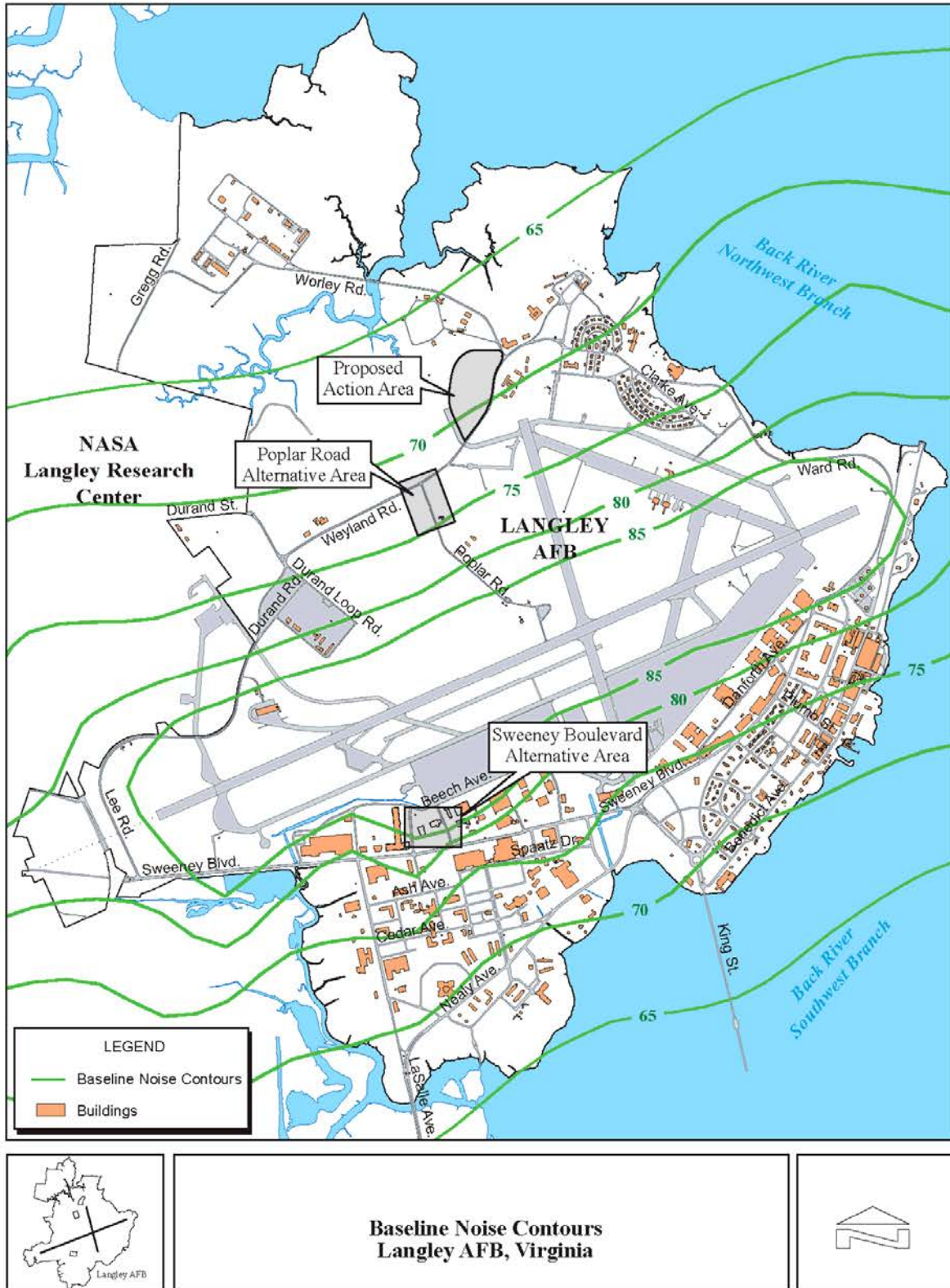


Figure 3-3. Baseline Noise Contours

3.8 AIR QUALITY

3.8.1 Definition of the Resource

Air quality is described by the atmospheric concentrations of six pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter that is less than 10 micrometers (PM₁₀) and less than 2.5 micrometers (PM_{2.5}) in diameter, and lead (Pb).

3.8.2 Existing Conditions

Langley AFB is located in the city of Hampton, Virginia, which is within the Hampton Roads Intrastate Air Quality Control Region (AQCR) #223. The Hampton Roads AQCR includes four counties (York, James City, Isle of Wight, and Southampton), as well as nine independent cities (Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg). This area includes substantial industry, several military and commercial airfields, and a large population that generate air quality emissions.

Air quality in the Hampton Roads AQCR is currently designated as attainment for all criteria pollutants. For O₃ and its precursor pollutants (volatile organic compounds [VOCs] and nitrogen oxides [NO_x]), the affected area is considered as “transitional attainment” or “maintenance.” On April 15, 2004, the United States Environmental Protection Agency (USEPA) designated the city of Hampton as marginal nonattainment for the newly established 8-hour O₃ standard effective as of June 15, 2004 (USEPA 2004a). For areas identified as in attainment of the 1-hour O₃ standard, USEPA will revoke the 1-hour O₃ standard in June 2005 (USEPA 2004b). Monitoring data has been collected over a 3-year period for determining compliance with the newly established standard for PM_{2.5}. On December 17, 2004, USEPA took final action for designating the attainment status for various regions within the United States. The city of Hampton was designated by USEPA as in attainment of the PM_{2.5} standard (USEPA 2004c).

Table 3-5 summarizes the baseline emissions (stationary and mobile) of criteria pollutants and precursor emissions for this AQCR. Baseline emissions for Langley AFB are incorporated into the totals for the AQCR. For each criteria pollutant, Langley AFB contributes less than 1 percent of the regional emissions. Langley AFB is regulated by VDEQ, which has issued a synthetic minor permit for the base that limits the facility-wide NO_x emissions below the major source thresholds of the Title V operating permit program.

Table 3-5. Baseline Emissions for Langley AFB Affected Environment

<i>Emissions</i>	<i>Pollutants (tons per year)</i>				
	CO	VOCs	NO _x	SO ₂	PM ₁₀
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860
Langley AFB	68.3	48.33	46.47	6.47	10.9
---Stationary Sources ²	20.84	50.61	31.31	1.50	11.13
---Mobile Sources ²	29.72	3.25	7.97	0.40	6.63
<i>Sources:</i> ¹ Federal Register (629123) June 26, 1997; ² Air Force 2006					

REGULATORY SETTING

The CAA Section 176(c), General Conformity, establishes certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with each state's State Implementation Plan (SIP) for achieving attainment of the health-protective national ambient air quality standards (NAAQS). The USEPA's General Conformity Rule requires that federal activities must not (1) cause or contribute to any new violation; (2) increase the frequency or severity of any existing violation; or (3) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

General conformity applies only to nonattainment and maintenance areas. Since the project is located in an O₃ marginal area, the General Conformity Rule applies to the project. If the emissions from a federal action proposed in such an area exceed annual emission thresholds identified in the rule (*de minimis* levels) or are deemed to be regionally significant (identified as equal to, or more than, 10 percent of the emissions inventory for the region), a conformity determination is required for that action. The thresholds become more restrictive as the severity of the nonattainment status of the region increases.

3.9 SOCIOECONOMICS

3.9.1 Definition of the Resource

The socioeconomic resources of the potentially affected region, represented as the ROI, are characterized in terms of population and housing, economic activity, community services, and infrastructure. Because these resources would be interrelated in their response to the proposed action at Langley AFB, their current condition is assessed in order to provide a basis for analyzing potential socioeconomic impacts. A change in employment, for example, may lead to population movements into or out of a region and, in turn, lead to changes in demand for housing and public services. The significance of these estimated impacts is then evaluated by comparing their characteristics to the baseline conditions described in this section.

Virginia is unique in that cities that have reached a certain size become independent governmental jurisdictions from the counties in which they are geographically located. The Virginia Peninsula is made up of the counties of James City, Gloucester, Matthews, and York and the independent cities of Williamsburg, Newport News, Poquoson, and Hampton. South Hampton Roads includes Isle of Wight County and the independent cities of Norfolk, Suffolk, Portsmouth, Chesapeake, and Virginia Beach. The center of the area, in which Langley AFB is situated, is highly urbanized, while the outer regions tend to be more rural.

3.9.2 Existing Conditions

The ROI for this analysis includes York County and the independent cities of Hampton, Newport News, and Poquoson, which are the areas surrounding Langley AFB. It is expected that potential socioeconomic impacts of the proposed action would be concentrated in this region. The proposed action would be contained within the confines of Langley AFB.

POPULATION AND HOUSING

The 2000 Census established the ROI population as 394,450 persons, an increase of 10.4 percent from the 1990 population of 357,265 (see Table 3-6). By 2003, population in the ROI had grown to 401,317 persons, a 1.7 percent increase since 2000. The current population in the ROI accounts for 5.6 percent of the Virginia population of 7.4 million persons.

Table 3-6. Regional Demographics

	<i>Hampton</i>	<i>Newport News</i>	<i>Poquoson</i>	<i>York County</i>	<i>ROI</i>
2003 population	146,878	181,647	11,844	60,948	401,317
2000 population	146,437	180,150	11,566	56,297	394,450
1990 population	133,793	170,045	11,005	42,422	357,265
Population density per square mile	2,828.0	2,637.9	745.4	532.9	1,630.0
2010 projection	149,600	184,100	12,000	68,800	414,500
2020 projection	152,600	187,100	12,300	80,000	432,000
2030 projection	155,600	190,100	12,600	91,000	449,300
<i>Sources: U.S. Bureau of Census 2000, 2004; VEC 2003</i>					

Population density in the ROI is 1,630 persons per square mile, ranging from 533 persons per square mile in York County to over 2,800 persons per square mile in the city of Hampton. Overall, the state has a population density of 179 persons per square mile. The combined regional population is projected to increase at an average annual rate of 0.5 percent, reaching 414,500 persons by the year 2010. By the years 2020 and 2030, the population of the region is expected to grow to 432,000 and 449,300 persons, respectively.

Based on Langley AFB population figures for FY 2002, the base-related population amounts to approximately 26,845 individuals (see Table 3-7). Of this total, 18,539 persons are military and family members, and the remaining 8,306 persons are civilian employees and family members. The total Langley AFB population represents 6.7 percent of the ROI population.

Table 3-7. Langley AFB Population

	<i>September 2002</i>
Military assigned	8,470
Living on-base	1,373
Living off-base	7,097
Military family members	10,069
Living on-base	6,244
Living off-base	3,825
Civilians	8,306
Appropriated fund civilians	2,074
Other civilians ¹	1,037
Civilian family members ²	5,195
<i>Notes:</i> ¹ This figure represents non-appropriated fund contract civilians and private business. ² This figure is calculated based on the census's average household size for the ROI. <i>Source:</i> Air Force 2002a.	

According to the 2000 Census, there were 156,429 housing units in the ROI, of which 147,739 were occupied (see Table 3-8). An estimated 83,916 of the occupied units (57 percent) were owner-occupied, while the remaining 63,823 (43 percent) were renter-occupied. The vacancy rate in the ROI is 5.56 percent, compared to 7.06 percent in the state. Approximately one-quarter of the 8,690 vacant homes are recreation homes, seasonal homes, and other housing classifications. Over one-third of the housing in the ROI is located in Hampton (37 percent), with Newport News accounting for almost half (47 percent). The median value of housing units in 2000 ranged from a low of \$91,100 in Hampton to a high of \$153,400 in Poquoson, compared to the state median home value of \$125,400.

Table 3-8. Housing Characteristics

	<i>Hampton</i>	<i>Newport News</i>	<i>Poquoson</i>	<i>York County</i>	<i>ROI</i>
Total housing units	57,311	74,117	4,300	20,701	156,429
Occupied units	53,887	69,686	4,166	20,000	147,739
Vacancy rate	5.97%	5.98%	3.12%	3.39%	5.56%
Ownership rate	58.6%	52.4%	84.1%	75.8%	58.6%
Average household	2.49	2.50	2.75	2.78	2.67
Median value	91,100	96,400	153,400	152,700	--
<i>Source:</i> U.S. Bureau of Census 2000					

There are approximately 3,000 on-base housing units at Langley AFB, including both military family housing units and unaccompanied personnel housing (UPH) units. The UPH inventory includes permanent party dormitory space, visiting officer quarters, and visiting airmen quarters.

ECONOMIC ACTIVITY

The regional economy has been expanding since the last recession in 1991 but began to slow in 2001 and 2002. Employment in the region has been growing at 2.3 percent annually over the past 20 years, slightly higher than the national rate (HRPDC 2003). The military and defense contractors, including those on and associated with Langley AFB, provide a significant portion of Hampton and Newport News employment. The Hampton Roads region, which includes the ROI, has one of the most highly concentrated military populations in the United States, with military employment comprising 11.5 percent of total regional employment.

Langley AFB is a major consumer in the local economy, not only due to the purchase of goods and services to support its day-to-day operations, but also because of the household spending of its military and civilian personnel and their families. Besides purchases and wages, Langley AFB is responsible for other economic activity in the ROI. Federal impact funds are provided to defray some of the community educational costs for military dependents receiving education in the civilian community. In addition, many military and DoD civilian retirees and their families live in the region, with their retirement pay contributing to the local economy.

EMPLOYMENT

The most recent labor market information indicates that the civilian labor force in the ROI stands at 200,138 (see Table 3-9). The civilian labor force grew 11.9 percent during the 1990s and has grown an additional 6.0 percent since the year 2000. The current regional unemployment rate is 4.5 percent, compared to the state unemployment rate of 3.6 percent. In 1990, the regional unemployment rate was 5.0 percent and declined over the decade to a low of 2.5 percent in 2000.

Table 3-9. Labor Market Information

	<i>Hampton</i>	<i>Newport News</i>	<i>Poquoson</i>	<i>York County</i>	<i>ROI</i>
Labor force, 2004	74,038	88,997	6,436	30,667	200,138
2000	70,593	84,242	6,128	27,880	188,843
1990	63,667	79,447	--	25,672 ¹	168,789
Unemployment, 2004	4.7%	5.1%	2.8%	2.6%	4.5%
2000	2.7%	2.8%	1.7%	1.6%	2.5%
1990	5.3%	5.3%	--	3.4% ¹	5.0%

Note: ¹ 1990 data for York County includes data for the city of Poquoson.

Source: VEC 2004

Employment in the region amounted to 173,364 jobs in 2002 (see Table 3-10). The services industry is by far the largest employment sector, accounting for 36.0 percent of regional employment. Government and government enterprises contribute 21.3 percent of all jobs in the ROI. Of total government employment, approximately 40 percent are military, 20 percent are

federal civilians, and 40 percent are state and local government employees. Manufacturing is the third largest sector in the region, accounting for 15.8 percent of total employment.

Table 3-10. Employment by Industry (2002)

	<i>Hampton</i>	<i>Newport News</i>	<i>Poquoson</i>	<i>York County</i>	<i>ROI</i>
Natural resources and mining	0	1	*	28	29
Construction	2,487	3,707	172	2,076	8,442
Trade	9,517	11,891	351	2,642	24,401
Transportation and utilities	576	2,385	*	215	3,176
Manufacturing	4,407	22,277	14	680	27,378
Information	2,171	2,200	0	101	4,472
Financial	1,805	3,608	77	632	6,122
Services	22,707	32,112	601	6,978	62,398
Government	15,278	17,373	505	3,763	36,919
Total employment	58,948	95,555	1,745	17,116	173,364
* Denotes non-disclosed data.					
Source: VEDP 2004					

Personnel associated with Langley AFB totaled 11,581 employees in FY 2002 (Air Force 2002a). Military personnel account for 8,470 jobs, and appropriated fund civilians account for 2,074 jobs. Other civilians, including non-appropriated fund civilians, BX/commissary employees, branch bank/credit union employees, and other concessionaires account for the remaining 1,307 jobs (Table 3-10). Additional private contracted personnel may contribute to total base employment. Economic activity generated by Langley AFB supports an estimated 6,195 indirect jobs in the region, with an average annual earnings impact of \$185 million.

INCOME AND EXPENDITURES

Earnings in the ROI totaled approximately \$7 billion in 2002 (BEA 2004). The distribution of earnings across industries is essentially the same as the distribution of employment, with services and government representing the largest income producers. Earnings per job stemmed from \$24,345 in York County to \$36,991 in Newport News, with average earnings per job in the ROI of \$35,328 (see Table 3-11). Median family income in the ROI in 2000 stemmed from \$36,597 in Newport News to \$60,920 in Poquoson (U.S. Bureau of Census 2000). Per capita income was \$19,738, almost 20 percent lower than the state per capita income of \$23,975.

In FY 2002, total payrolls associated with the 11,581 military and federal civilian personnel amounted to \$600 million (see Table 3-12). Other expenditures during FY 2002 included \$128 million in construction costs, \$134 million for service contracts, \$7 million in impact aid and tuition assistance, and \$9 million in health-related expenditures. Total Langley AFB expenditures in FY 2002 amounted to \$1.1 billion.

Table 3-11. Earnings and Income

	<i>Hampton</i>	<i>Newport News</i>	<i>Poquoson</i>	<i>York County</i>	<i>ROI</i>
Median family income	\$39,532	\$36,597	\$60,920	\$57,956	--
Per capita income	\$19,774	\$17,843	\$25,336	\$24,560	\$19,738
Earnings per job	\$36,991	\$36,915	-- ¹	\$24,345	\$35,328
Poverty rate	11.3%	13.8%	4.5%	3.5%	11.1%
¹ Job earnings data for city of Poquoson are included in York County's data. Sources: BEA 2004					

Table 3-12. Langley AFB Payroll and Expenditures (FY 2002)

	<i>Annual Payroll and Expenditures (in millions)</i>	
	SUBTOTAL	TOTAL
Annual Payroll		\$ 599.5
Military	\$ 447.9	
AF civilians	\$ 136.1	
NAF and other civilians	\$ 15.5	
Expenditures		\$ 538.1
Construction	\$ 127.6	
Services	\$ 133.6	
Materials, equipment, supplies	\$ 276.9	
Total payroll and expenditures		\$ 1,137.6
Source: Air Force 2002a		

INFRASTRUCTURE

Potable Water. The Langley AFB water system is classified by the Virginia Department of Health as a community water system (Public Water Supply ID Number VA3650305). A community water system is defined as "a waterworks which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents."

Langley AFB's sole potable water source is the Newport News Waterworks. Langley AFB has several non-potable water sources of water that can be used for contingency purposes. Three potable water treatment facilities, Harwood's Mill Water Treatment Plant (WTP), Lee Hall WTP, and a reverse osmosis well field, currently make up the Newport News Waterworks with a maximum production capability of 108 million gallons per day (MGD).

There are three potable water storage tanks available at Langley AFB. Tank 1374 is currently in use, and the remaining two tanks (66 and 1000) are offline. The total active tank storage capacity of the Langley AFB system is 2.5 million gallons (Air Force 2004b). Potable water demand at Langley AFB has varied from 0.90 MGD to 1.20 MGD during FY 1999 – FY 2002.

The base Capital Improvement Plan contains several storage tank, pump station, and distribution system improvements during the next several years. Once these improvements are brought online, the base will be able to more fully utilize storage capacity, operate the distribution system at higher pressures, and provide enhanced water system reliability.

Wastewater Treatment. Wastewater generated at the base is discharged through the sanitary sewer system to the Hampton Roads Sanitation District (HRSD). The base has an HRSD industrial wastewater discharge permit (No. 0011) effective through October 1, 2006 that regulates the amount of pollutants that can be discharged to the wastewater treatment plant. Wastewater from existing DCGS facilities is directed through two pump stations to the main sewer system on base.

Electric Power and Natural Gas. Dominion Virginia Power provides electric power to the Back River substation to the base. NASA Langley Research Center purchases electricity, which is then sold to Langley AFB. Currently, Langley AFB is in the process of installing a new contractor owned and maintained electrical distribution system. This new and improved system would include the construction of a new 8-mile direct buried underground 34.5-kV loop express feeder system. Additionally, 10 new transformers (5 megavolt-amp each) and associated electrical switching devices would be installed.

Virginia Natural Gas provides natural gas to Langley AFB through an underground main that extends along Sweeney Boulevard. The natural gas system is adequate to meet existing and short-term projected demand.

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4.0 ENVIRONMENTAL CONSEQUENCES

Chapter 4.0 presents the environmental consequences of the proposed action, the Poplar Road alternative, the Sweeney Boulevard alternative, and the no action alternative at Langley AFB for each of the resource areas discussed in Chapter 1.0. To define the consequences, this chapter evaluates the project elements described in Chapter 2.0 against the affected environment provided in Chapter 3.0. Cumulative effects of the proposed action and no action alternative with other foreseeable future actions are presented in Chapter 5.0.

4.1 LAND USE, TRANSPORTATION, AND VISUAL RESOURCES

4.1.1 Proposed Action

LAND USE

Construction of the DCGS facility on the west side of Weyland Road site would be consistent with the current zoning of administrative land use and the Base General Plan and the recently developed North Base Administrative Campus Area Development Plan (Air Force 2006). The proposed action would be in accordance with the Enforceable Regulatory Programs of the Virginia Coastal Resources Management Program to the maximum extent practicable. This project would not have any component that would affect any of the following sections of the Enforceable Regulatory Program: Fisheries Management, Subaqueous Lands Management, Dunes Management, and Shoreline Sanitation. Appendix B contains the evaluation of these components.

TRANSPORTATION

With the implementation of the proposed action construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gates. Additional traffic would be generated on the base perimeter road adversely affecting the level of service and safe operating conditions by this proposal and as other development occurs on the north side of the base. Traffic volumes would need to be monitored to determine if levels of service are adequate for the existing road capacity and design.

VISUAL RESOURCES

Construction of the DCGS facility on the west side of Weyland Road would alter the character of this portion of Langley AFB by converting the existing horse pasture with the construction of multiple buildings and parking areas. Building design would adhere to Langley AFB architectural compatibility standards and include retention of some trees and new landscaping around the building and parking areas in accordance with force protection standards. Although there would be a change in the visual character of this portion of Langley AFB, the

proposed conditions would be typical for a military facility. There would be no significant adverse impact on aesthetics.

4.1.2 Poplar Road Alternative

LAND USE

Construction of the DCGS facility at the Poplar Road site would not be compatible with the current zoning of light industrial land use and the Base General Plan (Air Force 2003). This alternative would not be consistent with surrounding industrial land uses. The project would be in accordance with the Enforceable Regulatory Programs of the Virginia Coastal Resources Management Program to the maximum extent practicable. This project would not have any component that would affect any of the following sections of the Enforceable Regulatory Program: Fisheries Management, Subaqueous Lands Management, Dunes Management, and Shoreline Sanitation. Appendix B contains the evaluation of these components.

TRANSPORTATION

With the implementation of this alternative, on-base vehicular circulation would not be impeded by the demolition of the existing hazardous waste facilities 1390/1395 and construction of the new DCGS building. Construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gates.

Additional traffic would be generated on the base perimeter road adversely affecting the level of service and safe operating conditions by this proposal and as other development occurs on the north side of the base. Traffic volumes would need to be monitored to determine if levels of service are adequate for the existing road capacity and design.

VISUAL RESOURCES

The view of the existing forested area from Weyland Road and the Langley AFB golf course would change when the proposed two-story 144,500-square-foot DCGS building is erected. Although the loss of the forested area would change the visual character of the area, there would be no significant adverse impact on aesthetics. Building design would adhere to Langley AFB architectural compatibility standards and include retention of some trees and new landscaping around the building and parking areas.

4.1.3 Sweeney Boulevard Alternative

LAND USE

Under this alternative, the DCGS facility would be located in an area that was zoned for aircraft operations and maintenance uses only. Construction at this location would not be consistent with base zoning and future development options. The proposal would be in accordance with the Enforceable Regulatory Programs of the Virginia Coastal Resources Management Program.

TRANSPORTATION

Construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gates. Construction of the DCGS facility at the Sweeney Boulevard location, given the additional personnel forecast, would result in a degradation of the level of service on Sweeney Boulevard, particularly at the unsignalized intersection with Birch Street (Landmark Design Group 2004). With the consolidation of three existing driveways into a new combined driveway serving the DCGS facility and the Explosive Ordnance personnel in Building 340, congestion would be slightly reduced along this portion of Sweeney Boulevard.

VISUAL RESOURCES

Demolition of the existing DCGS facilities and construction of the new building at this location would provide a single modern structure consistent with Langley AFB architectural compatibility standards. This action would have a beneficial effect on the surrounding visual resources.

4.1.4 No Action Alternative

No impacts to transportation and visual resources are anticipated under the no action alternative because the demolition and construction would not occur and use of existing 40- to 60-year-old structures would remain unchanged. There would be an adverse effect to land use from the continuing use of lands identified for aircraft operations and maintenance uses for DCGS which does not require direct access to the airfield.

4.2 CULTURAL RESOURCES

A number of federal regulations and guidelines have been established for the management of cultural resources. Section 106 of the NHPA, as amended, requires federal agencies to take into account the effects of their undertakings on historic properties. Historic properties are cultural resources that are listed in, or eligible for listing in, the NRHP. Eligibility evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Under federal law, impacts to cultural resources may be considered adverse if the resources have been determined eligible for listing in the NRHP or have traditional significance for American Indian groups.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts are assessed by identifying the types and locations of proposed

activity and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

4.2.1 Proposed Action

Fifteen archaeological sites have been identified within the boundaries of Langley AFB, although none are within the area that would be directly affected by the proposed action. Based on the sensitivity maps prepared for Langley AFB (USACE 2004), the area proposed for construction of the new DCGS facility lies in an area of low sensitivity for archaeological resources. Construction of a new building on fill and creating a 2.3-acre parking lot are unlikely to disturb significant, NRHP-eligible archaeological resources. However, in the event that construction-related activities encounter archaeological resources, Langley AFB would cease work and comply with Section 106, including coordinating identification and mitigation actions with the Virginia SHPO, in accordance with federal law and Air Force regulations.

Impacts to architectural/engineering resources are not expected as a result of the proposed action. Six buildings (326, 329, 333, 337, 338 and 339) would be vacated and turned over to the 1 FW. The buildings that are part of this action are located outside the boundary of the NRHP-eligible Langley Field Historic District. Additionally, ongoing survey work to identify architectural/engineering resources related to the Cold War era has not identified as NRHP-eligible any of the structures to be demolished or vacated as part of the proposed action (USACE 2004).

Impacts to traditional resources are not expected under the proposed action. There are no federally recognized Indian lands at Langley AFB, and no issues have been identified by federally recognized or other Indian groups in Virginia. No traditional resources have been identified at this project location on Langley AFB.

Compliance with Section 106 of the NHPA, including consultation with the SHPO, was completed on 21 May 2006. The SHPO concurred that construction would pose no adverse effect.

4.2.2 Poplar Road Alternative

Under this alternative, the area proposed for construction of the new DCGS facility lies in an area of low sensitivity for archaeological resources. Construction of a new building on fill and creating a 2.3-acre parking lot are unlikely to disturb significant, NRHP-eligible archaeological resources. However, in the event that construction-related activities encounter archaeological resources, Langley AFB would cease work and comply with Section 106, including coordinating identification and mitigation actions with the Virginia SHPO, in accordance with federal law and Air Force regulations.

Impacts to architectural/engineering resources are not expected as a result of this alternative. Two facilities (1390 and 1395) would be demolished; six others (326, 329, 333, 337, 338, and 339)

would be vacated and turned over to the 1 FW. The buildings that are part of this alternative are located outside the boundary of the NRHP-eligible Langley Field Historic District. Additionally, ongoing survey work to identify architectural/engineering resources related to the Cold War era has not identified as NRHP-eligible any of the structures to be demolished or vacated as part of this action (USACE 2004).

Impacts to traditional resources are not expected as there are no federally recognized Indian lands at Langley AFB, and no issues have been identified by federally recognized or other Indian groups in Virginia. No traditional resources have been identified at this project location on Langley AFB.

Compliance with Section 106 of the NHPA, including consultation with the SHPO, would be completed prior to project implementation.

4.2.3 Sweeney Boulevard Alternative

The Sweeney Boulevard alternative site is located on the flightline area. This area has been highly developed in the past, and although this area has not been surveyed for archaeological resources, it is considered to have a low probability for their presence due to this development. Demolition of buildings and new construction is unlikely to adversely impact NRHP-eligible cultural resources. However, in the event that construction-related activities encounter archaeological resources, Langley AFB would cease work and comply with Section 106, including coordinating identification and mitigation actions with the Virginia SHPO, in accordance with federal law and Air Force regulation.

Hangar 338 would be returned to 1 FW for uses related to aircraft operations and a new facility constructed. Buildings 326, 329, 333, 337, and 339 would be demolished. None of these buildings are considered eligible for nomination to the NRHP, nor has ongoing survey work to identify architectural/engineering resources related to the Cold War era identified any of these structures as NRHP-eligible (USACE 2004).

Impacts to traditional resources are not expected under the Sweeney Boulevard alternative. No issues have been identified by federally recognized or other Indian groups in Virginia. No federally recognized Indian lands exist at Langley AFB, and no traditional resources have been identified at this specific alternative project location.

Compliance with Section 106 of the NHPA, including consultation with the SHPO, would be completed prior to project implementation.

4.2.4 No Action Alternative

Under the no action alternative, no demolition and no construction would take place. No impacts to cultural resources would be expected. Resources would continue to be managed in compliance with federal law and Air Force regulations.

4.3 BIOLOGICAL RESOURCES

4.3.1 Proposed Action

Implementation of the Proposed Action would involve conversion of a 21.8 acre site that has been used for horse pasture for many years and its conversion would only minimally affect wildlife. Birds that frequent the existing pasture would likely relocate nearby to the adjacent open fields of the golf course to the west or to the recreational fields to the east.

Approximately 0.44 acres of wetlands would be filled to accommodate the proposed action at this location. This impacted area of wetlands comprises less than 1 percent of the 76.2 acres of palustrine emergent wetlands on base. A wetland permit package is being reviewed by relevant federal and state agencies. While the formal review is in progress, the preliminary response from all agencies is that the permit package will be approved. As the mitigation measure for the wetlands lost under the proposed action, Langley AFB will pay into the Virginia Aquatic Resources Trust Fund, which has been approved in Virginia for use as a means of compensatory mitigation (Appendix D).

Standard construction and demolition practices would be applied to control sedimentation and erosion during construction, renovation, and demolition, thereby avoiding secondary effects on any nearby wetlands or freshwater aquatic communities. With the implementation of these practices during development and the mitigation of the affected wetlands, no significant environmental consequences are anticipated.

Species listed, proposed for listing, or candidates for listing as threatened and endangered in accordance with the ESA (87 Stat. 884, as amended; 16 USC 1531 et seq.) are not anticipated to be significantly affected by the proposed action. State-protected species would also not be significantly affected by the proposed action because their habitat would not be altered and because changes in base activities are not expected to be biologically significant. No special species or sensitive habitats are expected to be impacted.

4.3.2 Poplar Road Alternative

The Poplar Road site would require the removal of approximately 8 acres of forest, which composes approximately 3 percent of the remaining forested area on base. The primary affected canopy species include loblolly pine, various oaks, sweet gum, and maple. Wildlife present in the forest with limited home ranges would likely be lost as a result of site development. Forest species likely to be affected by development of the site are locally abundant in the region and the overall ecological effect would, therefore, be minor.

No direct loss of wetlands is anticipated with the development of the site. Adequate space is available at the Poplar Road location to develop the DCGS facility without filling in the wetlands associated with the drainage ditch along the eastern edge of the site. This alternative would not conflict with the wetlands management program associated with the Virginia

Coastal Zone Management Program. Standard construction and demolition practices would be applied to control sedimentation and erosion during construction, renovation, and demolition, thereby avoiding secondary effects on any nearby wetlands or freshwater aquatic communities. With the implementation of these practices during development, no significant environmental consequences are anticipated.

Species listed, proposed for listing, or candidates for listing as threatened and endangered in accordance with the ESA (87 Stat. 884, as amended; 16 USC 1531 et seq.) are not anticipated to be significantly affected by this alternative. Although the forested area could potentially provide suitable habitat for nesting or long-term roosting of the bald eagle, no nesting or long-term roosting has ever been observed on base. State-protected species would also not be significantly affected by this alternative because their habitat would not be altered and because changes in base activities are not expected to be biologically significant. No special species or sensitive habitats are expected to be impacted.

4.3.3 Sweeney Boulevard Alternative

Under the Sweeney Boulevard alternative, demolition and construction would take place in an area that is previously developed or disturbed, currently experiences high levels of continual human activity, lacks native terrestrial habitat, and exhibits a low level of biodiversity. The only plants or animals likely to be displaced from this marginal habitat are individuals of common and locally abundant species.

4.3.4 No Action Alternative

Under the no action alternative, demolition and construction of the DCGS facilities would not occur. There would be no environmental consequences to this resource.

4.4 WATER RESOURCES

4.4.1 Proposed Action

SURFACE WATER/GROUNDWATER

Construction of the DCGS building and parking areas would amount to approximately 8.7 acres of new impermeable surfaces, once fully constructed, that would generate additional stormwater runoff. This additional stormwater would be directed to a stormwater management facility that consists on grassed islands, forebays, and dry ponds. The grassed islands within the parking areas would be planted to allow for the filtering of sediments and the infiltration of storm waters. Excess water from these islands would be discharged through perforated pipe into the forebays. The forebay portion of the dry pond would receive the initial runoff from paved areas and roof areas and would be separated from the main body of the pond by an aggregate filter. This will allow the heavier sediments and suspended matter to settle out of the runoff before it reaches the main body of the pond. Because the forebay needs enough depth

to allow the sediments to settle, there may be standing water in this area when the main body of the pond is dry. The dry pond would store stormwater during storm events and slowly release the water, thereby allowing sediments and pollution to be largely reduced from the site water discharges to downstream waters. The pond is planted to provide nutrient uptake from the runoff water to satisfy the requirements of the Chesapeake Bay Protection Act to reduce drainage pollution.

Prior to the start of construction, silt fences, storm drain inlet and outlet protection, and other appropriate standard construction practices would be instituted in accordance with Department of Conservation and Recreation's (DCR's) *Virginia Erosion and Sediment Control Handbook*. Because more than 1 acre would be disturbed by construction, a General Permit for Discharges of Stormwater from Construction Activities would be required.

FLOODPLAINS

If sited at this location, construction of the new DCGS facility would be within the 100-year floodplain. As identified in Figure 3-2, the majority of Langley AFB is located within the 100-year floodplain and no practicable alternatives are available for this demolition and construction. In order to reduce the potential for flood damage the building footprint would need to be elevated to approximately 4 feet. There would be no significant environmental effects to this resource.

4.4.2 Poplar Road Alternative

SURFACE WATER/GROUNDWATER

Construction of the DCGS building and parking area would amount to approximately 4 acres of new impermeable surfaces that would generate additional stormwater runoff. This additional stormwater would be directed to a stormwater detention basin that would then discharge to existing drainage swales that flow to Tabbs Creek and the Northwest Branch of the Back River.

Prior to the start of construction, silt fences, storm drain inlet and outlet protection, and other appropriate standard construction practices would be instituted in accordance with Department of Conservation and Recreation's (DCR's) *Virginia Erosion and Sediment Control Handbook*. Because more than 1 acre would be disturbed by construction, a General Permit for Discharges of Stormwater from Construction Activities would be required.

FLOODPLAINS

Construction of the new DCGS facility would be within the 100-year floodplain at this location. As identified in Figure 3-2, the majority of Langley AFB is located within the 100-year floodplain and no practicable alternatives are available for this demolition and construction. In order to reduce the potential for flood damage the building footprint would need to be elevated to approximately 4 feet. There would be no significant environmental effects to this resource.

4.4.3 Sweeney Boulevard Alternative

SURFACE WATER/GROUNDWATER

Under this alternative, approximately 1 acre of new impermeable surface would be constructed that would generate additional stormwater runoff. Given close proximity to the runway and the concerns for bird-aircraft strike hazards, stormwater runoff would be directed into the existing drainage swales that discharge into the existing Langley AFB stormwater drainage system.

Prior to the start of construction, silt fences, storm drain inlet and outlet protection, and other appropriate standard construction practices would be instituted in accordance with DCR's *Virginia Erosion and Sediment Control Handbook*. Because more than 1 acre would be disturbed by construction, a General Permit for Discharges from Construction Activities would be required.

FLOODPLAINS

If sited at this location, the new DCGS facility would be constructed within the 100-year floodplain. As identified in Figure 3-2, the majority of Langley AFB is located within the 100-year floodplain and no practicable alternatives are available for this demolition and construction. To reduce the potential for flood damage the building footprint would need to be elevated to approximately 4 feet. There would be no significant environmental effects to this resource.

4.4.4 No Action Alternative

Under the no action alternative, demolition and construction of the DCGS system would not occur. There would be no environmental consequences to this resource, but 40- to 60-year-old facilities currently in use for DCGS would continue to be subjected to occasional flooding.

4.5 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

4.5.1 Proposed Action

HAZARDOUS MATERIALS

Construction of the new DCGS facility may require the use of hazardous materials by contractor personnel. In accordance with the base's HAZMART procedure, copies of material safety data sheets must be provided to the base and maintained on the construction site. Project contractors would comply with federal, state, and local environmental laws and would employ affirmative procurement practices when economically and technically feasible.

All hazardous materials and construction debris generated by the proposed project would be handled, stored, and disposed of in accordance with federal state and local regulations and laws. Permits for handling and disposal of hazardous material would be the responsibility of

the contractor. Hazardous materials shall not be stored on base. All hazardous materials used at the construction site including, but not limited to, paint, paint thinners, gasoline, diesel, oil, and lubricants shall be removed daily. Only quantities of hazardous materials required to carry out the work for the day would be permitted on site.

HAZARDOUS WASTE

Contractor personnel may generate hazardous waste during construction. Storage and disposal of these wastes would be the responsibility of the site contractor. Generation of appreciable amounts of construction hazardous wastes is not anticipated. Any soil suspected of contamination, as discovered during the construction process, would be tested and disposed of in accordance with proper regulations.

In the event of fuel spillage during construction, the contractor would be responsible for its containment, cleanup, and related disposal costs. The contractor would have sufficient spill supplies readily available on the pumping vehicle and/or at the site to contain any spillage. In the event of a contractor-related release, the contractor shall immediately notify the 1 FW Civil Engineering/Environmental Management Office and take appropriate actions to correct its cause and prevent future occurrences.

STORAGE TANKS

No known active or inactive storage tanks are located within the proposed action site. Proposed above-ground storage tanks would be installed to support emergency power generation equipment in accordance with Air Force requirements.

ENVIRONMENTAL RESTORATION PROGRAM

If sited at this location, the project would not directly affect any ERP sites. Any soil suspected of contamination, as discovered during the demolition and construction process, would be tested and disposed of in accordance with appropriate VDEQ regulations. The environmental consequences for this resource are not anticipated to be significant.

SOLID WASTE MANAGEMENT

Demolition contractors would be directed to recycle materials to the maximum extent possible, thereby reducing the amount of demolition debris disposed in landfills. Materials not suitable for recycling would be taken to a landfill permitted to handle construction debris wastes, such as the Bethel Landfill in Hampton. That landfill has capacity to operate for 59 years (personal communication, Deibler 2003) and the waste generated by the proposed action would not have a significant impact on the operating life of the landfill. No significant environmental effects would result from the implementation of the proposed action.

4.5.2 Poplar Road Alternative

HAZARDOUS MATERIALS

Construction under this alternative would generate the same type and amount of hazardous materials identified under the proposed action, and management of these materials would follow the programs outlined in the proposed action section.

HAZARDOUS WASTE

Implementation of this alternative would result in similar waste generation as identified under the proposed action. Management of these wastes would follow established base programs, and no significant adverse environmental consequences are anticipated.

If ACM or lead-based paint is found in or near the demolition areas, then the following federal and state regulations must be followed.

- *Asbestos Removal and Disposal.* Upon classification as friable or non-friable, all waste ACM should be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640) and transported in accordance with the Virginia regulations governing transportation of hazardous materials (9 VAC 20-110-10 et seq.).
- *Lead-Based Paint Removal and Disposal.* The proposed project should comply with the U.S. Department of Labor, OSHA regulations and with the Virginia Lead-Based Paint Activities Rules and Regulations (9 VAC 20-60-261).

STORAGE TANKS

No known active or inactive storage tanks are located within the area immediately surrounding facilities 1390 and 1395.

ENVIRONMENTAL RESTORATION PROGRAM

Development of the proposed DCGS system would occur near the ERP Range Site ED 147/AOC 147. The 1 Civil Engineering Squadron, Environmental Restoration Branch (1 CES/CEVR), would request an ACC waiver for construction near this ERP site and provide notification to VDEQ and USEPA Region III. Any soil suspected of contamination, as discovered during the demolition and construction process, would be tested and disposed of in accordance with appropriate VDEQ regulations. The environmental consequences for this resource are not anticipated to be significant.

SOLID WASTE MANAGEMENT

Demolition of facilities 1390 and 1395 would generate solid wastes consisting of concrete, brick, wood, structural steel, glass, and miscellaneous metal building components. The total amount of demolition waste generated by the proposed action is estimated to be approximately

550 cubic yards. Demolition contractors would be directed to recycle materials to the maximum extent possible, thereby reducing the amount of demolition debris disposed in landfills. Materials not suitable for recycling would be taken to a landfill permitted to handle construction debris wastes, such as the Bethel Landfill in Hampton. That landfill has capacity to operate for 59 years (personal communication, Deibler 2003) and the waste generated by the proposed action would not have a significant impact on the operating life of the landfill. No significant environmental effects would result from the implementation of this alternative.

4.5.3 Sweeney Boulevard Alternative

HAZARDOUS MATERIALS

Construction under this alternative would generate the same type and amount of hazardous materials identified under the proposed action, and management of these materials would follow the programs outlined in the proposed action section.

HAZARDOUS WASTE

Implementation of this alternative would result in similar waste generation as identified under the proposed action. Management of these wastes would follow established base programs, and no significant adverse environmental consequences are anticipated.

STORAGE TANKS

Four storage tanks are associated with buildings scheduled for demolition within the Sweeney Boulevard alternative site. Three USTs have been filled and abandoned in place. 1 CES Engineering would determine whether these tanks would have to be disturbed prior to construction of the new DCGS facility. The aboveground storage tank associated with facility 339 would be removed or moved to the new facility. Disturbing any of these four tanks would require notification to VDEQ prior to moving or removal activities.

ENVIRONMENTAL RESTORATION PROGRAM

Under this alternative, no ERP sites would be affected by the construction of the DCGS facility.

SOLID WASTE MANAGEMENT

Demolition of Buildings 326, 329, 333, 337, and 339 would generate solid wastes consisting of concrete, brick, wood, structural steel, glass, and miscellaneous metal building components. The total amount of demolition waste generated by the Sweeney Boulevard alternative is estimated to be approximately 22,580 cubic yards and, to the greatest extent practicable, demolition materials would be recycled. Materials not suitable for recycling would be taken to a landfill permitted to handle construction debris wastes, such as the Bethel Landfill in Hampton. That landfill has capacity to operate for 59 years (personal communication, Deibler 2003), and the waste generated by this proposal would not have a significant impact on the operating life

of the landfill. No significant environmental effects would result from the implementation of this alternative.

4.5.4 No Action Alternative

Under the no action alternative, demolition and construction of DCGS facilities would not occur. Management of hazardous materials, hazardous wastes, and solid wastes would continue under existing Langley AFB programs, and there would be no environmental consequences for these resources.

4.6 SAFETY

4.6.1 Proposed Action

GROUND SAFETY

Implementation of this action would result in a short-term increase in the risks associated with construction and demolition; however, no significant environmental consequences are anticipated. Standard demolition and construction practices guided by OSHA and NFPA regulations would be followed. With the construction of new DCGS facilities, substandard structures would be removed from use, improving working conditions and safety for DCGS system personnel.

EXPLOSIVE SAFETY

The siting of the DCGS facility on the west side of Weyland Road would not interfere with any existing Q-D explosive safety arcs on Langley AFB. Coordination with the 1 FW Safety Office would take place prior to finalizing the exact location of the structure and supporting facilities. No significant adverse environmental consequences are anticipated.

4.6.2 Poplar Road Alternative

GROUND SAFETY

Implementation of this action would result in a short-term increase in the risks associated with construction and demolition; however, no significant environmental consequences are anticipated. Standard demolition and construction practices guided by OSHA and NFPA regulations would be followed. With the construction of new DCGS facilities, substandard structures would be removed from use, improving working conditions and safety for DCGS system personnel.

EXPLOSIVE SAFETY

The siting of the DCGS facility on Poplar Road would not interfere with any existing Q-D explosive safety arcs on Langley AFB. Coordination with the 1 FW Safety Office would take

place prior to finalizing the exact location of the structure and supporting facilities. No significant adverse environmental consequences are anticipated.

4.6.3 Sweeney Boulevard Alternative

GROUND SAFETY

Implementation of this action would result in a short-term increase in the risks associated with construction and demolition; however, no significant environmental consequences are anticipated. Standard demolition and construction practices guided by OSHA and NFPA regulations would be followed. With the construction of new DCGS facilities, substandard structures would be removed from use, improving working conditions and safety for DCGS personnel.

EXPLOSIVE SAFETY

Implementation of this action would not interfere with any existing Q-D explosive safety arcs on Langley AFB. No significant adverse environmental consequences are anticipated.

4.6.4 No Action Alternative

Under the no action alternative, demolition and construction of the DCGS system would not take place. The use of these 40- to 60-year-old facilities could increase the potential risk to DCGS system personnel.

4.7 NOISE

Noise impact analyses typically evaluate potential changes to existing noise environments that would result from implementation of a proposal. Potential changes in the noise environment can be (1) beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels); (2) negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged); or (3) adverse (i.e., if they result in increased exposure to unacceptable levels).

4.7.1 Proposed Action

Implementation of the proposed action would have minor, temporary increases in localized noise levels in the vicinity of the project area during demolition and construction. The base is an active military facility that typically experiences high noise levels from daily flight operations. This location is located within the 65-70 dB ANL published noise contours and the building design incorporates 35 dB DNL noise level reduction elements. Use of construction and demolition equipment for site preparation and development (i.e., demolition, grading, fill, and construction) would generate noise. However, noise would be similar to typical construction and demolition noise, last only the duration of the specific construction and demolition activities, and could be reduced by the use of equipment sound mufflers and

restricting construction and demolition activity to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.). Table 4-1 shows sound levels associated with typical heavy construction equipment under varying modes of operation.

Table 4-1. Typical Equipment Sound Levels

<i>Equipment</i>	<i>Sound Level (in dBA) Under Indicated Operational Mode ¹</i>		
	<i>Idle Power</i>	<i>Full Power</i>	<i>Moving Under Load</i>
Forklift	63	69	91
Backhoe	62	71	77
Dozer	63	74	81
Front-end loader	60	62	68
Dump truck	70	71	74
¹ Measured at 125 feet. dBA = Decibel Average Over Time Source: Air Force 1999			

Compared with aircraft noise, noise produced by construction and demolition would be relatively lower in magnitude and spread out during the business day. Noise from truck traffic hauling construction materials to construction location and demolition materials away from the demolition location and the staging area would not affect base residents because the West Gate would provide demolition and construction access. The noise disruptions would be temporary and would be limited to daytime hours; therefore, impacts are considered insignificant.

4.7.2 Poplar Road Alternative

Under this alternative, noise would be generated from demolition, construction, and building activities. However, noise would be short-term and intermittent, resulting in no measurable effect to the adjacent civil engineering and aircraft operation and maintenance facilities. Aircraft would continue to generate average noise levels of 80 decibels (dB) to 85 dB from flyovers, generally overshadowing noise from construction activities. The new DCGS building would include features to attenuate the flightline noise by up to 35 dB DNL and ensure a safe working environment for base personnel.

4.7.3 Sweeney Boulevard Alternative

Under this alternative, noise would be generated from demolition, construction, and building activities. However, noise would be short-term and intermittent, resulting in no measurable effect to the adjacent civil engineering and aircraft operation and maintenance facilities. Aircraft would continue to generate average noise levels of 80 decibels (dB) to 85 dB from flyovers, generally overshadowing noise from construction activities. The new DCGS building would include features to attenuate the flightline noise by up to 35 dB DNL and ensure a safe working environment for base personnel.

4.7.4 No Action Alternative

Under the no action alternative, demolition and construction would not occur. Noise levels would remain the same as they are currently.

4.8 AIR QUALITY

The air quality analysis included an assessment of the changes in direct and indirect emissions from known activities associated with the proposed action, the Sweeney Boulevard alternative, and the no action alternative at Langley AFB. The activities identified as requiring evaluation included construction area preparation (tree clearing, grading, and fill operations) prior to facility construction, the construction of a new two-story building within the DCGS station, and the proposed demolition activities. Emissions from the proposed action, the Sweeney Boulevard alternative, and the no action alternative are either “presumed to conform” (based on emissions levels that are considered insignificant in the context of the overall regional emissions) or they must demonstrate conformity with approved SIP provisions.

4.8.1 Proposed Action

The proposed DCGS weapon system facility on the west side of Weyland Road would consist of two buildings (144,500-square-feet) and an equipment yard (approximately a 2.07-acre area) with approximately 450 parking spaces. Construction would begin in FY 2007 and would be scheduled for completion in FY 2009. The location of the new building would require some preparatory construction activities, including site grading and the transportation of approximately 13,300 cubic yards of fill material, which will be needed to raise the site approximately 4 feet above the current elevation so that construction is above the 100-year floodplain for the site. Four 1,750-kilowatt (kW) backup generators would be added at this new facility. Except for the temporary impacts associated with the proposed construction activities and the new generators, the proposed action would not result in a change in the operational emissions, including the number of commuters or vehicle miles traveled.

Construction Emissions. These temporary activities are expected to result in fugitive dust (PM₁₀) emissions from grading, and NO_x, CO, VOCs, SO_x, and PM₁₀ emissions resulting from diesel combustion during the use of heavy-duty construction equipment. Emissions from construction activities were quantified using the Air Force Conformity Applicability Model software (ACAM, Version 4.0.3, 2005). During construction, it was assumed that trucks hauling materials would be covered while traveling on paved roads and that exposed surfaces and soil piles would be watered twice daily to minimize fugitive dust.

For completeness, since the ACAM model does not include an option for assessing emissions from “other” related construction activities, such as those expected with this project that will include transport of fill materials (these activities would only occur during the first year of construction), emissions from these activities were calculated using emission factors from the *Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations* (Air Force 2002b), which is a compilation of USEPA emission factors. The construction emissions were

calculated over the entire project period, which would extend from FY 2007 through FY 2009. Appendix C provides summaries of the assumptions and the ACAM emission calculations for construction activities under the proposed action. The additional emissions from the transport of 13,300 cubic yards for fill operations are estimated to result in 2.95 tons of CO, 0.86 tons of VOCs, 1.26 tons of NO_x, 0.05 tons of SO_x, and 3.70 tons of PM₁₀. These emissions would occur in FY 2007 and are added to the ACAM results (presented in Appendix C) to produce the overall emissions for that year, which are shown in Table 4-2.

Table 4-2. Projected Emissions – Proposed Action

Year	Pollutant Emissions (tons/year)				
	CO	VOCs	NO _x	SO _x	PM ₁₀
2007	33.59	2.88	11.3	1.22	10.71
2008	60.39	3.91	19.07	2.24	1.48
2009	0.52	0.03	0.64	0.00	0.05
2010	2.12	0.19	2.03	0.06	0.12
<i>de minimis</i> threshold	NA	100	100	NA	NA
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860

¹ Sources: Commonwealth of Virginia 1996 and Federal Register 629123, June 1997.

In general, combustive and fugitive dust emissions would produce localized, short-term elevated air pollutant concentrations, which would not result in any long-term impacts on the air quality in the Hampton Roads AQCR. Emissions generated by construction projects are temporary in nature and would end when construction is complete. The emissions from fugitive dust (PM₁₀) could be further reduced through the implementation of other control measures as outlined in Code of Virginia regulations (9 VAC 5-50-60 et seq.) for the control and abatement of air pollution. The base employs street sweepers to reduce the amount of dirt and debris on the roadways within the base. Using efficient grading practices and avoiding long periods where engines are running at idle could reduce combustion emissions from construction equipment. Vehicular combustion emissions from construction workers commuting may be reduced by carpooling.

Operational Emissions. Except for the four backup generators that would be added at the new facility, no new stationary sources would be added to the base as a result of the proposed project. Langley AFB's Synthetic Minor Air Permit would require modification to include the backup emergency generators. The only direct operational emissions expected to occur after the construction and demolition phases for the proposed project is completed are associated with the testing of the four 1,750-kW backup generators. Based on one hour of testing per month per engine, operational emissions from the four diesel engines were calculated. These emissions are included in the Year 2010 emissions presented in Appendix C.

Conformity Evaluation. General conformity regulations set forth in 40 CFR 51 Subpart W, and adopted in the Virginia Administrative Code (9 VAC 5 Chapter 160) outline *de minimis* levels of emissions, below which it is presumed that the action conforms to the SIP. The *de minimis* levels for O₃ precursors (VOC and NO_x) in the Hampton Roads AQCR, which is a maintenance area outside of an O₃ transport region, are 100 tons per year for both VOC and NO_x emissions. In addition, the proposed action's emissions (both direct and indirect) must be compared to the regional inventory to determine whether the emissions are considered "regionally significant" (i.e., exceed 10 percent of the regional emissions). As shown in Table 4-2, total construction, demolition, and operational emissions generated on base and within the Hampton Roads AQCR resulting from the proposed action are well below the 100 tons per year *de minimis* federal conformity thresholds for NO_x and VOCs and are less than 1 percent of the Hampton Roads AQCR regional emissions, thus are considered insignificant and would not require a CAA conformity determination.

4.8.2 Poplar Road Alternative

Under this alternative, in addition to the proposed construction of the DCGS weapon system facility, two buildings would be demolished. Appendix C provides summaries of the assumptions and emission calculations for construction activities under the Poplar Road alternative. Table 4-3 summarizes the project emissions from this alternative. Due to the added demolition activities, this alternative would result in slightly higher PM₁₀ emissions during the years that demolition would occur. However, as shown in Table 4-3, the total construction, demolition, and operational emissions generated on base and within the Hampton Roads AQCR resulting from this alternative would be below the 100 tons per year *de minimis* federal conformity thresholds for NO_x and VOCs and are less than 1 percent of the Hampton Roads AQCR regional emissions, thus demonstrating compliance with CAA conformity requirements.

Table 4-3. Projected Emissions – Poplar Road Alternative

Year	Pollutant Emissions (tons/year)				
	CO	VOCs	NO _x	SO _x	PM ₁₀
2007	3.28	0.99	2.49	0.18	18.03
2008	32.18	2.30	10.65	1.23	2.40
2009	0.52	0.03	0.64	0.00	0.05
2010	0.58	0.04	0.85	0.00	0.05
<i>de minimis</i> threshold	NA	100	100	NA	NA
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860
¹ Sources: Commonwealth of Virginia 1996 and Federal Register 629123, June 1997.					

4.8.3 Sweeney Boulevard Alternative

Under this alternative, in addition to the proposed construction of the DCGS weapon system facility, five buildings would be demolished. Appendix C provides summaries of the assumptions and emission calculations for construction activities under the Sweeney Boulevard alternative. Table 4-4 summarizes the project emissions from this alternative. Due to the added demolition activities, this alternative would result in slightly higher PM₁₀ emissions during the years that demolition would occur. However, as shown in Table 4-4, the total construction, demolition, and operational emissions generated on base and within the Hampton Roads AQCR resulting from this alternative would be below the 100 tons per year *de minimis* federal conformity thresholds for NO_x and VOCs and are less than 1 percent of the Hampton Roads AQCR regional emissions, thus demonstrating compliance with CAA conformity requirements.

Table 4-4. Projected Emissions – Sweeney Boulevard Alternative

Year	Pollutant Emissions (tons/year)				
	CO	VOC	NO _x	SO _x	PM ₁₀
2007	3.28	0.99	2.49	0.18	18.10
2008	32.18	2.30	10.65	1.23	2.50
2009	0.52	0.03	0.64	0.00	0.05
2010	0.58	0.04	0.85	0.00	0.05
<i>de minimis</i> threshold	NA	100	100	NA	NA
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860

¹ Sources: Commonwealth of Virginia 1996 and Federal Register 629123, June 1997.

4.8.4 No Action Alternative

Under the no action alternative, construction of the consolidated DCGS facility would not occur. Air quality would remain the same as present conditions.

4.9 SOCIOECONOMICS

4.9.1 Proposed Action

Economic activity associated with construction of the \$46 million DCGS facility, such as payroll and materials expenditures, would provide short-term economic benefits to the local economy during the projected two-year period required to complete the project. This impact would compose less than 0.1 percent of regional employment and earnings. The addition of 350 active and VA ANG personnel would increase base employment by approximately 3.5 percent. No

significant adverse effects to socioeconomic resources would be expected, and there would be a slight beneficial increase in regional economic activity.

Interconnections to the existing Langley AFB utility infrastructure are available to support the construction associated with the DCGS facility. Consumption of potable water and electricity would increase with the operation of these facilities; however, these demands can be met through the existing and upgraded infrastructure. No significant adverse environmental consequences are anticipated from the construction and operation of these facilities.

4.9.2 Poplar Road Alternative

Construction activity at this alternative location would result in similar short-term beneficial impacts to the local economy as described under the proposed action.

Interconnections to the existing Langley AFB utility infrastructure are available to support the construction associated with the DCGS facility. Consumption of potable water and electricity would increase with the operation of these facilities; however, these demands can be met through the existing and upgraded infrastructure. No significant adverse environmental consequences are anticipated from the construction and operation of these facilities.

4.9.3 Sweeney Boulevard Alternative

Construction activity at this alternative location would result in similar short-term beneficial impacts to the local economy as described under the proposed action.

Interconnections to the existing Langley AFB utility infrastructure are available to support the construction associated with the DCGS facility. Consumption of potable water and electricity would increase with the operation of these facilities; however, these demands can be met through the existing and upgraded infrastructure. No significant adverse environmental consequences are anticipated from the construction and operation of these facilities.

4.9.4 No Action Alternative

Under the no action alternative, the Air Force would not construct a consolidated DCGS facility at Langley AFB at this time. The Air Force would continue to operate the DCGS weapons system from multiple facilities both on and off Langley AFB.

5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

This section provides (1) a definition of cumulative effects, (2) a description of past, present, and reasonably foreseeable actions relevant to cumulative effects, and (3) an evaluation of cumulative effects potentially resulting from these interactions.

5.1.1 Definition of Cumulative Effects

CEQ regulations stipulate that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider geographic and temporal overlaps among the proposed action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative effects are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with, or in close proximity to, the proposed action would be expected to have more potential for a relationship than actions that may be geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

To identify cumulative effects, this EA addresses three questions.

1. Does a relationship exist such that elements of the proposed action might interact with elements of past, present, or reasonably foreseeable actions?
2. If one or more of the elements of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
3. If such a relationship exists, does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

In this EA, an effort has been made to identify all actions that are being considered and that are in the planning phase at this time. To the extent that details regarding such actions exist and

the actions have a potential to interact with the proposed action in this EA, these actions are included in this cumulative analysis. This approach enables decision makers to have the most current information available so that they can evaluate the environmental consequences of the proposed action.

5.1.2 Past, Present, and Reasonably Foreseeable Actions

This EA applies a stepped approach to provide decision makers with not only the cumulative effects of the proposed action and the Sweeney Boulevard alternative, but also the incremental contribution of past, present, and reasonably foreseeable actions.

PAST AND PRESENT ACTIONS

Langley AFB is an active military installation that undergoes continuous change in mission and in training requirements. This process of change is consistent with the U.S. defense policy that the Air Force must be ready to respond to threats to American interests throughout the world. In 1998, the Air Force implemented a force structure change that added 12 F-15C aircraft and 134 personnel to Langley AFB, increasing the total number of F-15C aircraft to 66. In 2001 Langley AFB was chosen as the bed-down location of the Initial Operational Wing for 72 of the new F-22A aircraft. To support this beddown, various projects, including demolition and construction of three hangars, a new simulator building, and other support buildings, were constructed and approximately 16 acres of the base along the flightline were disturbed.

The base, like any other major military installation, also requires new construction, facility improvements, and infrastructure upgrades. The base has been in operation since 1917, and many facilities require extensive renovation or demolition. Demolition within the historic district in 2004 and 2005 included the water tower (616), greenhouse (1001), LTA single-family housing units (868, 869, 948, and 949), and seaplane hangar (633). Reconstruction of the King Street Gate is now complete, and new facility construction completed includes a new youth center, housing management office, dormitory complex, and operations support facility.

Currently, 1 FW is upgrading portions of electrical system, sanitary sewer system, and potable water distribution system and completing anti-terrorism/force protection improvements at its West Gate, which includes widening a portion of Sweeney Boulevard. There are also numerous hurricane repair projects underway to repair damage to facilities resulting from Hurricane Isabel, which struck the Hampton Roads area in 2003. Other major construction activities currently underway include a new mini-mall and extensive renovations at the munitions storage area.

REASONABLY FORESEEABLE FUTURE ACTIONS

For the FY 2007 to FY 2009 timeframe, 1 FW has proposed a number of actions that are independent of the proposed action and would be implemented irrespective of a decision on the proposed construction of the DCGS facility. In order to redevelop portions of the base and to

eliminate facilities that are obsolete, the 1 FW has planned for demolition of the dock (610) and industrial buildings 615, 731, 732, 735, and 1033.

The 1 FW is also planning to construct new buildings and implement airfield improvements. Major new facilities include an 87,000-square-foot facility to consolidate the Air Force Command and Control, Intelligence, Surveillance, Reconnaissance Center. Also planned is the construction of force protection and access improvements to the LaSalle Gate. Planned community support construction includes new visitors' quarters, expansion of the hospital, and redevelopment of the base marina. In addition, 1 FW is planning a series of infrastructure improvements that include an expansion to the alert area, new combat arms maintenance training range, replacement of the existing 2 million gallon per day potable water storage tank, and relocation of the government gas station.

Other facility upgrades/renovations at Langley AFB facilities are in the planning stage and are summarized in Table 5-1.

In addition to the facilities listed in the table above, 1 FW is working with NASA Langley Research Center to acquire property in the North Base Area west of the Munitions Storage Area. An area development plan has been prepared that will propose significant redevelopment of the new property. Additional small construction projects are planned either as a result of the Air Force planning and programming process or are already in the early planning stages. There will also be some construction as a result of the Base Realignment and Closure Commission determinations, but the majority of these projects have not been fully developed. However, an addition to the Logistics Supply center is proposed for the North Base administrative campus area in FY07, and modifications to the Alert Hangar to accept F-22As are also tentatively scheduled.

Airfield improvements are also planned, with the rehabilitation of 45,000 square feet of taxiway and ramp surfaces and construction of approximately 240,000 square feet of new airfield pavement.

5.1.3 Analysis of Cumulative Impacts

The following analysis examines how the impacts of these other actions might be affected by those resulting from the proposed action at Langley AFB and whether such a relationship would result in potentially significant impacts not identified when the proposed action is considered alone.

Table 5-1. Planned Facility Upgrades at Langley AFB

Facility	Building Space (square feet)
<i>North Base Area</i>	
VA ANG Fire Training Facility	6,000
Logistics Supply Center	185,000
North Base Food Center	25,000
Education Center Expansion	25,000
DGS-1	144,000
<i>North Base Industrial Area</i>	
Auto/ Skills Development Facility	21,721
Transportation Vehicle Complex	26,000
New Hazardous Waste Storage Facility	1,800
EOD Operations Facility	29,998
Outdoor Recreational Facility	10,570
<i>Flightline</i>	
Aerospace Physiology	14,260
Consolidated Headquarters	42,495
<i>Community Support Area</i>	
Visitor's Quarters	36,000

None of the future infrastructure actions (analyzed in previous environmental documents) would be expected to result in more than negligible impacts either individually or cumulatively. Construction of the DCGS facility would consume approximately 8 acres of undeveloped land on the 2,883-acre Langley AFB. This construction, along with other development proposals considered for the next five years (identified in Section 5.1.2), is not anticipated to disturb more than 3 percent of the base.

This action, the indoor firing range and the Logistics Supply Center in the North Base Administrative Campus, are within view of the Langley Field Historic District. Consultation with the SHPO has to this point resulted in findings of no adverse effect on the historic district. Additional projects within the Campus, including the demolition of the existing water tower (Facility 1000) may result in a finding of adverse effect on the historic district. Continued consultation with the SHPO would articulate the action necessary to manage the historic resources on base.

All actions affect very specific, circumscribed areas, and the magnitude of the actions is minimal. Given that the proposed action would likewise have a minimal effect within the base, the combined impacts of these actions would remain well below the threshold of significance for any resource category.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of “. . . any irreversible and irretrievable commitments of resources which would be involved in the proposed action and alternatives should it be implemented.” Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the demolition of a historic building).

For the proposed actions, most resource commitments are neither irreversible nor irretrievable. Most environmental consequences are short-term and temporary (such as air emissions from construction) or longer lasting but negligible (e.g., utility increases). DCGS construction would require consumption of limited amounts of materials typically associated with interior and exterior construction (e.g., concrete, wiring, insulation, and windows) and the irretrievable commitment of fossil fuels through the use of vehicles necessary to remove demolition debris and construct the proposed facilities. The amount of these materials used is not expected to significantly decrease the availability of the resources.

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6.0 REFERENCES

- Barrera, J.F. 1995. Survey for Bald Eagles and Peregrine Falcons at Langley Air Force Base, Virginia. Report for Air Combat Command. July 1995.
- Davey Resource Group. 1997. Urban Forest Inventory and Management Plan Langley Air Force Base. September 1997.
- Federal Register. 1997. Federal Register (629123). 26 June 1997.
- Hampton Roads Planning District Commission (HRPDC). 2003. Hampton Roads 2003 Economic Outlook. June 2003.
- Headquarters Tactical Air Command (HQ TAC). 1992. Architectural and Historical Survey of Langley Air Force Base and Inventory of Historic Resources Langley Field, Virginia. National Park Service (NPS), Atlanta, Georgia.
- Landmark Design Group. 2004. DGS-1 CCD Langley Air Force Base. Traffic Impact Study. Project #2004182-001.01. November 23, 2004.
- Mitsch, W.J. 2000. Wetlands. Van Nostrand Reinhold Co., New York, NY.
- United States Air Force (Air Force). 1997 Air Installation Compatible Use Zone (AICUZ) Program. Langley AFB, Virginia.
- _____. 1998. Integrated Natural Resource Management Plan, Langley Air Force Base, Virginia. June 1998.
- _____. 1999. Air Force Handbook 32-7084.
- _____. 2000. 1998 Air Emissions Inventory for Langley Air Force Base. Langley Air Force Base, Virginia.
- _____. 2001. Final Wetlands Report, Langley Air Force Base, Commonwealth of Virginia. April 2001.
- _____. 2002a. United States Air Force, Langley Air Force Base. Fiscal Year 2002 Economic Impact Analysis.
- _____. 2002b. Air Emissions Inventory Guidance for Mobile Sources at Air Force Installations. Air Force Institute for Environment, Safety, and Occupational Health Risk Analysis, Risk Analysis Directorate, Environmental Analysis Division, Brooks Air Force Base, Texas. January 2002.
- _____. 2003. Base General Plan – Langley AFB, Virginia. July 2003.
- _____. 2004a. Langley Air Force Base. Archaeological Survey of 406 Acres. Draft Report. Prepared by Geo Marine. Plano, TX.

6.0 References

- _____. 2004b. Environmental Restoration Program. Management Action Plan. Langley Air Force Base, Virginia. December 2004.
- United States Army Corps of Engineers (USACE). 2004. Langley Air Force Base Cultural Resources Management Plan.
- United States Bureau of the Census. 2000. Census 2000: State and County QuickFacts. Available on-line at www.census.gov.
- _____. 2004. Annual estimates of the Population for Counties in Virginia for July 2003. Available on-line at www.census.gov.
- United States Bureau of Economic Analysis (BEA). 2004. Regional Accounts Data: Table CA30 Regional Economic Profiles 1969-2002.
- United States Environmental Protection Agency. 2004a. "Virginia Standard (8-hour Ozone)." 40 CFR 81.347, amended effective June 15, 2004. Downloaded from the Internet on May 14, 2004. <http://www.epa.gov/ozonedesignations/part81r8c.pdf>.
- _____. 2004b. "Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard – Phase I." April 15, 2004. Downloaded from the USEPA website on 5/14/2004. <http://www.epa.gov/ozonedesignations/finalrule.pdf>.
- _____. 2004c. "2004 State PM2.5 Designation Recommendations." Accessed from USEPA website on 5/14/2004. <http://www.epa.gov/pmdesignations/regions/region3.htm>.
- Virginia Department of Environmental Quality (VDEQ). 2004. Solid Waste Managed in Virginia During Calendar Year 2003. June 2004.
- Virginia Economic Development Partnership (VEDP). 2004. Regional Overview and Community Profiles.
- Virginia Employment Commission (VEC). 2003. Population Projections for Virginia Counties by Decade through 2030. May 2003.
- _____. 2004. Virginia Employment Commission (VEC). Labor Market Information for Virginia Counties and Cities. Monthly Data 2004.

PERSONS AND AGENCIES CONTACTED

Baie, Laura, 2004. Community Planner, 1 CES/CECP, Langley Air Force Base, Virginia.

Clark, TSgt Timothy L 2005. SFS/SFTC, 1 Fighter Wing, Langley AFB Virginia

Deibler, Jeff, 2003. Virginia Department of Environmental Quality, Solid Waste Management, Richmond, Virginia.

Green, Paul PhD, 2004. Cultural Resources Manager, ACC/CEVPN, Langley Air Force Base, Virginia.

Goss, Matthew, 2005. EIAP Manager, 1 CES/CEVP, Langley Air Force Base, Virginia.

Hailey, Kathi, 2004. Hazardous Waste Manager, 1 CES/CEVC, Langley Air Force Base, Virginia.

Johnston, Vic, 2004. Public Affairs, 1 FW/PA, Langley Air Force Base, Virginia.

Patterson, Margaret, 2004. Restoration Project Manager, ACC/CEVRE, Langley Air Force Base, Virginia.

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Years of Experience: 9

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APPENDIX A - CONSULTATION LETTERS



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

MAR 31 2005

Ms. Karen L. Mayne
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
P.O. Box 99
Gloucester VA 23061

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9485

Dear Ms. Mayne

Langley AFB is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of a proposal to construct a new Distributed Common Ground System (DCGS) Weapon System facility at Langley AFB.

The proposal consists of constructing a two-story 144,500 square foot building. The new building will consolidate the mission into a single facility where the existing facilities supporting the DCGS program are undersized and not geographically co-located.

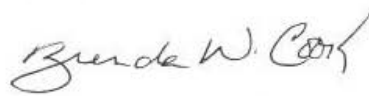
This proposal is intended to replace buildings 326, 329, 333, 337, 338 and 339 and centralize the mission into one adequately sized facility. The upgraded facility will provide additional space to accommodate the increased manning and technology upgrades the program requires. In addition to the proposed action, one alternative and a no-action alternative will be analyzed in the EA. Attachment 1 is a map that provides an overview of the proposed action area.

Pursuant to analysis of the proposed action, as well as compliance with the Endangered Species Act, we would like to request information regarding listed threatened, endangered, and candidate species that occur or may occur in the potentially affected area. Please identify a point of contact for any follow-up questions we may have concerning the data you provide and we look forward to receiving your comments as part of this process.

Global Power For America

Please provide your comments or any requests for additional information to Mr. Matt Goss of the Environmental Management Flight. Mr. Goss can be reached at the above address, or at (757) 764-1095. Your response before 22 April 2005 will allow us to ensure your contribution is included in the draft EA.

Sincerely

A handwritten signature in black ink, reading "Brenda W. Cook". The signature is fluid and cursive, with the first name "Brenda" being more prominent than the last name "Cook".

BRENDA W. COOK, GS-13
Chief, Environmental Management Flight

Attachment:
Map of Proposed Action Area

Copies of the preceding letter and attachment were also sent to the following:

Ms. Ethel Eaton
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Mr. Tony Watkinson
Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, VA 23607

Mr. Thomas A. Barnard, Jr.
Virginia Marine Resources Commission
P.O. Box 1346
Gloucester Point, VA 23062

Mr. Gerald P. Wilkes
Virginia Department of Mines, Minerals and Energy
Division of Mineral Resources
P.O. Box 3667
Charlottesville, VA 22903

Mr. Alan Weber
Virginia Department of Health
109 Governor Street, 6th Floor
Division of Drinking Water
Richmond, VA 23219

Mr. Ray Fernald
Virginia Department of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230

Mr. Michael Foreman
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, VA 22903

Mr. John Davy
Virginia Department of Conservation & Recreation
203 Governor Street
Richmond, VA 23219

Ms. Catherine Harold
Chesapeake Bay Local Assistance Department
101 N. 14th Street, 17th Floor
Richmond, VA 23219

Mr. Keith Tignor
Virginia Department of Environmental Quality
Office of Plant & Pest Services
1100 Bank Street
Richmond, VA 23219

Ms. Ellen Gilinsky
Virginia Department of Environmental Quality
Virginia Water Protection Program
629 East Main Street, 9th Floor
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Virginia Department of Environmental Quality
Waste Division
629 East Main Street, 4th Floor
Richmond, VA 23219

Mr. Kotus S. Narsimhan
Virginia Department of Environmental Quality
Air Data Analysis Program
629 East Main Street, 8th Floor
Richmond, VA 23219

Mr. David Grimes
Virginia Department of Transportation
Environmental Division
1401 East Broad Street
Richmond, VA 23219

Mr. Harold Winer
Virginia Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, VA 23462

Ms. Ellie Irons
Virginia Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, 6th Floor
Richmond, VA 23219



COMMONWEALTH of VIRGINIA

Department of Mines, Minerals and Energy

Division of Mineral Resources

P.O. Box 3667

Charlottesville, Virginia 22903-0667

(434) 951-6340

8 April 2005

Ms. Brenda W. Cook
1 CES/CEV
37 Sweeney Blvd.
Langley AFB, Virginia 23665-2107

Re: EA for DCGS Weapon System facility project

Dear Ms. Cook:

The Department of Mines, Minerals and Energy finds the proposed project would have no anticipated impact to the geology or mineral resources of the site.

Please contact me if further information is required.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerald Wilkes".

Gerald Wilkes
Geologist

EQUAL OPPORTUNITY EMPLOYER



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P. O. Box 10009, Richmond, Virginia 23240
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www.deq.virginia.gov

Robert G. Burnley
Director

(804) 698-4000
1-800-592-5482

April 14, 2005

Mr. Matt Goss
Environmental Management Flight
Department of the Air Force
Headquarters, 1st Fighter Wing
1 CES/CEV
37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665

RE: Distributed Common Ground System Weapon System, Langley AFB
(Certified Mail Return Receipt #7003-1010-0001-9507-9482)

Dear Mr. Goss:

This is in response to the March 31, 2005 letter from Ms. Brenda W. Cook announcing the preparation of an Environmental Assessment for the construction of a Distributed Common Ground System (DCGS) Weapon System facility at Langley Air Force Base and requesting comments on the scope of the document.

According to the letter, the project proposal is to construct a building of 144,500 square feet to consolidate activities from Buildings 326, 329, 333, 337, 338, and 339 into one structure.

The roles of the Virginia Department of Environmental Quality (DEQ) in relation to the project under consideration are as follows. First, DEQ's Office of Environmental Impact Review (this Office) will coordinate Virginia's review of any environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and comment to the Air Force on behalf of the Commonwealth. A similar review process will pertain to the federal consistency determination that must be provided pursuant to the Coastal Zone Management Act (CZMA).

Environmental Review and Scoping

We are sharing Ms. Cook's letter with selected state and local Virginia agencies, which are likely to include the following (note: starred (*) agencies administer one or

Mr. Matt Goss
Page 2

more of the Enforceable Policies of the Virginia Coastal Resources Management Program; see "Federal Consistency..." below):

- Department of Environmental Quality:
 - Office of Environmental Impact Review
 - Tidewater Regional Office*
 - Air Division*
 - Waste Division
- Department of Game and Inland Fisheries*
- Department of Conservation and Recreation:
 - Division of Chesapeake Bay Local Assistance*
 - Division of Soil and Water Conservation*
 - Division of Planning and Recreation Resources
- Department of Health*
- Marine Resources Commission*
- Department of Historic Resources
- Virginia Institute of Marine Science
- Hampton Roads Planning District Commission
- City of Hampton
- City of Poquoson.

In order to ensure an effective coordinated review of the Environmental Impact Statement or Environmental Assessment and the consistency determination, we will require 18 copies of the document when it is published. The document should include a U.S. Geological Survey topographic map as part of its information. While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA documents for the proposed project.

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities affecting Virginia's coastal resources or coastal uses must be consistent with the Virginia Coastal Resources Management Program (VCP) (see section 307(c)(1) of the Act and the Federal Consistency Regulations, 15 CFR Part 930, sub-part C). The Air Force must provide a consistency determination which involves an analysis of the activities in light of the Enforceable Policies of the VCP (first enclosure), and a commitment to comply with the Enforceable Policies. In addition, we invite your attention to the Advisory Policies of the VCP (second enclosure). The federal consistency determination may be provided as part of the NEPA documentation or independently, depending on your agency's preference; we recommend, in the interests of efficiency for all concerned, that it be provided together with the NEPA document and

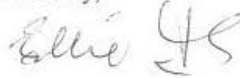
Mr. Matt Goss
Page 3

that 60 days be allowed for review in keeping with the Federal Consistency Regulations (see section 930.41(a)). Section 930.39 of the Federal Consistency Regulations and Virginia's Federal Consistency Information Package (see below) give content requirements for the consistency determination.

The Federal Consistency Information Package is available on DEQ's web site, <http://www.deq.state.va.us>. Select "Programs" on the left, then scroll to "Environmental Impact Review/Federal consistency" and select this heading. Select "federal consistency reviews" on the left. This gives you access to the document. If you have questions about the environmental review process or the federal consistency review process, please feel free to call me (telephone (804) 698-4325) or Charles Ellis of this Office (telephone (804) 698-4488).

I hope this information is helpful to you.

Sincerely,



Ellie L. Irons
Program Manager
Office of Environmental Impact Review

cc: Harold J. Winer, DEQ-TRO
Kotur S. Narasimhan, DEQ-Air
Allen Brockman, DEQ-Waste
Andrew K. Zadnik, DGIF
C. Scott Crafton, DCR
Alan D. Weber, VDH
Tony Watkinson, MRC
Ethel R. Eaton, DHR
Alice R. T. Baird, DCR-DCBLA
Thomas A. Barnard, Jr., VIMS
Arthur L. Collins, Hampton Roads PDC
James Freas, City of Hampton
Charles W. Burgess, Jr., City of Poquoson



COMMONWEALTH of VIRGINIA

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Robert G. Burnley
Director

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1-800-592-5482

Attachment 1

Enforceable Regulatory Programs comprising Virginia's Coastal Resources Management Program (VCP)

- a. Fisheries Management - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code sections 28.2-200 to 28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code sections 29.1-100 to 29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities; Virginia Code sections 3.1-249.59 to 3.1-249.62.

- b. Subaqueous Lands Management - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Marine Resources Commission; Virginia Code sections 28.2-1200 to 28.2-1213.
- c. Wetlands Management - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.
- (1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code sections 28.2-1301 through 28.2-1320.
 - (2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands --both tidal and non-tidal; Virginia Code section 62.1-44.15:5 and Water Quality Certification pursuant to section 401 of the Clean Water Act.

Attachment 1, page 2

- d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code sections 28.2-1400 through 28.2-1420.
- e. Non-point Source Pollution Control – (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Conservation and Recreation; Virginia Code sections 10.1-560 et seq..

(2) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater (see i) Virginia; Virginia Code sections 10.1-2100 through 10.1-2114 and 9 VAC10-20 et seq.
- f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code section 62.1-44.15. Point source pollution control is accomplished through the implementation of:
 - (1) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.
 - (2) The Virginia Water Protection Permit (VWPP) program administered by DEQ; Virginia Code section 62.1-44.15:5 and Water Quality Certification pursuant to section 401 of the Clean Water Act.
- g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code sections 32.1-164 through 32.1-165).
- h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code sections 10-1.1300 through 10.1-1320).
- (i) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code sections 10.1-2100 through 10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC 10-20-10 et seq.

Advisory Policies for Shorefront Access Planning and Protection

- a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.
- b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.
- c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.
- d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.
- e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.
- f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCRMP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Marine Resources Commission

2600 Washington Avenue
Third Floor
Newport News, Virginia 23607
April 13, 2005

William A. P.
Commissioner

Brenda Cook
Chief, Environmental Management Flight
Dept. of the Air Force
1CES/CEV
37 Sweeney Blvd.
Langley Air Force Base, VA 23665-2107

Re: Distributed Common Ground System
Langley Air Force Base, Hampton

Dear Ms. Cook:

In accordance with your March 31, 2005 letter, we have reviewed the above-referenced letter for the construction of a new two-story 114,500 square foot building to co-locate Distributed Common Ground System (DCSG) program operations at Langley Air Force Base in the City of Hampton.

The Marine Resources Commission, pursuant to Chapter 12 of Title 28.2 of the Code of Virginia, is responsible for issuing permits for encroachments in, on, or over State-owned submerged lands throughout the Commonwealth. From the information provided in your letter, the project does not appear to involve any encroachments channelward of mean low water along any natural rivers and streams. If you believe that the project may result in the encroachment over, under, on, or through natural rivers or streams within our jurisdiction, please contact our office and we will forward the necessary permit applications.

Thank you for the opportunity to comment on this project. If we may be of further assistance, please do not hesitate to give us a call.

Sincerely,

Traycie L. West
Environmental Engineer

TLW/moj
HM

cc: DEQ- Office of EIR

An Agency of the Natural Resources Secretariat

Web Address: www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD



COMMONWEALTH of VIRGINIA
Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

21 April 2005

Ms Brenda W. Cook
1 CES/CEV
37 Sweeney Boulevard, Langley Air Force Base
Hampton, Virginia 23665-2107

Re: Initiation of Consultation Regarding Distributed Common Ground System (DCGS)
Langley Air Force Base
Hampton, Virginia
DHR File No. 2005-0449

Dear Ms Cook:

We have received your letter of 31 March 2005 regarding the initiation of consultation regarding the development of an Environmental Assessment (EA) for a new Distributed Common Ground System (DCGS) at Langley Air Force Base located in Hampton, Virginia. The project involves the construction of a two-story 144,500 square-foot building. The new facility will consolidate the mission into a single building where the existing facility supporting the DCGS program is undersized and not geographically co-located.

The project has the potential to affect known historic properties determined eligible for listing in the National Register of Historic Places. Specifically, the project will occur within the identified boundary of the National Register-eligible Langley Air Force Base Historic District. If the Air Force intends to incorporate its Section 106 responsibilities into the National Environmental Policy Act (NEPA), we request that the EA include a thorough discussion regarding the potential of the undertaking to affect significant historic properties, including archaeological sites. We look forward to reviewing and commenting on the EA once available.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 114.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

Administrative Services
10 Courthouse Avenue
Petersburg, VA 23803
Tel: (804) 863-1624
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Ave.
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Portsmouth Region Office
612 Court Street, 3rd Floor
Portsmouth, VA 23704
Tel: (757) 396-6707
Fax: (757) 396-6712

Roanoke Region Office
1030 Penmar Ave., SE
Roanoke, VA 24013
Tel: (540) 857-7585
Fax: (540) 857-7588

Winchester Region Office
107 N. Kent Street, Suite 203
Winchester, VA 22601
Tel: (540) 722-3427
Fax: (540) 722-7535



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 10009, Richmond, Virginia 23240

Fax (804) 698-4500 TDD (804) 698-4021

www.deq.virginia.gov

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Robert G. Burnley
Director

(804) 698-4000
1-800-592-5482

April 22, 2005
ODA-090-05

Brenda W. Cook, GS – 13
Chief, environmental Management flight
Department of the Air force
Headquarters 1st Fighter Wing
Langley Air Force Base
37 Sweeney Boulevard
Langley AFB VA 23665 - 2107

Dear Ms. Cook:

RE: Construction of Distributed Common Ground System

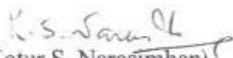
Kindly refer to your letter dated March 31, 2005 on the above subject.

Concerning the project, the following Virginia Air Regulations may be kept in view while carrying out an environmental assessment of the project:

1. 9 VAC 5-40-5600 et seq. – Open Burning
2. 9 VAC 5-50-60 et seq. Fugitive Dust Emissions

Besides, being in an area of ozone non-attainment, all precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) during construction.

If you have any questions, please do not hesitate to contact me.


(Kotur S. Narasimhan)
Environmental Engineer Senior
Air Data Analysis



JEANNE ZEIDLER, CHAIR • PAUL D. FRAM, VICE CHAIRMAN • JAMES O. MCREYNOLDS, TREASURER

ARTHUR L. COLLINS, EXECUTIVE DIRECTOR/SECRETARY

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Dalton S. Edge, Mayor
Debbie Ritter, Council Member

FRANKLIN

Mark S. Fetheroff, Council Member
Rowland L. Taylor, City Manager

GLOUCESTER COUNTY

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JAMES CITY COUNTY

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YORK COUNTY

James O. McReynolds, County Administrator
Thomas G. Sheppard, Jr., Chairman

April 25, 2005

Mr. Matt Goss
Environmental Management Flight
Department of the Air Force
Headquarters, 1st Fighter Wing
1 CES/CEV
37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665

Re: Distributed Common Ground
System (DCGS) Weapon
System, Langley AFB
(ENV:GEN)

Dear Mr. Goss:

This is in response to the March 31, 2005 letter from Ms. Brenda W. Cook announcing the intent to prepare an Environmental Assessment for the construction of a Distributed Common Ground System (DCGS) Weapon System facility at Langley Air Force Base in Hampton, Virginia. The staff of the Hampton Roads Planning District Commission has reviewed your request for comments on the scope of the document, and offers no requests for additional information at this time.

We appreciate the opportunity to comment on this proposed project at Langley AFB. We look forward to reviewing the completed Environmental Assessment document.

Sincerely,

Arthur L. Collins
Executive Director/Secretary

MLJ:fh

Copy: Ms. Ellie Irons

HEADQUARTERS • THE REGIONAL BUILDING • 723 WOODLAKE DRIVE • CHESAPEAKE, VIRGINIA 23320 • (757) 420-8300
PENINSULA OFFICE • 2101 EXECUTIVE DRIVE • SUITE C • HAMPTON, VIRGINIA 23666 • (757) 262-0094

APPENDIX B - CONSISTENCY DETERMINATION

1 **APPENDIX B - FEDERAL AGENCY COASTAL ZONE** 2 **MANAGEMENT ACT (CZMA) CONSISTENCY** 3 **DETERMINATION**

INTRODUCTION

This document provides the Commonwealth of Virginia with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 C.F.R. Section 930.39.

Pursuant to Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, as amended, its implementing regulations at 15 C.F.R. Part 930, this is a Federal Consistency Determination for activities described within the Environmental Assessment for the Distributed Common Ground Station (DCGS) at Langley Air Force Base, Virginia (Chapter 2.0 of the document).

Proposed Federal Agency Action

The proposed action of the EA is the construction and demolition at the Distributed Common Ground Station (DCGS) at Langley Air Force Base (AFB), Virginia.

The Air Force has evaluated the Proposed Action and Alternatives for potential effects to the land or water uses or natural resources of the Commonwealth's coastal zone within the context of the statutes listed in the Virginia Coastal Resources Management Program.

Federal Consistency Review

Statutes addressed as part of the Virginia Coastal Resources Management Program consistency review and considered in the analysis of the proposed action are discussed in the following table.

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Fisheries Management</i> Virginia Administrative Code 28.2-200 to 28.2-713 (Virginia Marine Resources Commission) and 29.1-100 to 29.1-570 (Department of Game and Inland Fisheries)	Stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities.	Fisheries would not be affected by the proposed action.
<i>Subaqueous Lands Management</i> Virginia Administrative Code Section 28.2-1200 to 28.2-1213	Establishes the conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits and water quality standards established by the Virginia Department of Environmental Quality.	No aspects of the proposed action occur in state waters. There will be no dredge and fill operations. The proposed action would not involve the use of state submerged lands.
<i>Wetlands Management</i> Virginia Administrative Code Section 28.2-1301 to 28.2-1320 (Marine Resources Commission) and 62.1-44.15.5 and Section 401 of the Clean Water Act (Department of Environmental Quality)	Preserves tidal wetlands, prevent their destruction, and accommodates economic development in a manner consistent with wetlands preservation. Also, establishes a Water Quality Certification program consistent with Section 401 of the Clean Water Act.	The proposed action would conform to the maximum extent practicable with the wetlands management program associated with the Virginia Coastal Zone Management Program.
<i>Dunes Management</i> Virginia Code 28.2-1400 through 28.2-1420 (Marine Resources Commission)	Provides for protection of primary dunes as contained in the Coastal Primary Sand Dune Protection Act.	The proposed project would not adversely affect beach and shore management, nor impact any primary dunes as defined by the Coastal Primary Sand Dune Act. There are no sand-covered beaches or sand dunes in the vicinity of this project.
<i>Non-point Source Pollution</i>	Requires soil disturbing	The proposed action would

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Control</i> Virginia Code Sections 28.2-1400 to 28.2-1420 (Department of Conservation and Recreation)	activities be designed to reduce soil erosion and to decrease inputs of chemical nutrients into state waters.	result in minor soil erosion and increases in turbidity from soil erosion. Best management practices for preventing and controlling erosion would be necessary and are described in Chapter 4 of the document.
<i>Point Source Pollution Control</i> Virginia Code 62.1-44.15 (State Water Control Board)	Point source water pollution control is accomplished by implementation of the National Pollutant Discharge Elimination System (NPDES) permit Program pursuant to Section 402 of the Clean Water Act. Administered in Virginia as the VPDES Permit Program.	No point source discharges into surface water or effects to public drinking water supplies would occur from the proposed action.
<i>Shoreline Sanitation</i> Virginia Code Sections 32.1-164 through 32.1-165 (Virginia Department of Health)	Regulates the installation of septic tanks, sets standards concerning soil types suitable for septic tanks, and specifies minimum distances for placement from streams, rivers and other state waters.	Installation of septic tank systems is not contained in this proposal. All sanitary sewage would be routed to an on-base central sewage collection system and treated at the Hampton Roads Sanitation District's regional wastewater treatment facility.
<i>Air Pollution Control</i> Virginia Code Section 10-1.1300 (State Air Pollution Control Board)	Implements the federal Clean Air Act to provide the legally enforceable State Implementation Plan for the attainment of the National Ambient Air Quality Standards.	The proposed action would not result in significant air emissions.

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Coastal Lands Management</i> Virginia Code Sections 10.1-2100 and Virginia Administrative Code 10-20-10 et seq. (Chesapeake Bay Local Assistance Department and 84 localities in Tidewater Virginia)	A state-local cooperative program pursuant to the Chesapeake Bay Preservation Act and Chesapeake Bay Preservation and Management Regulations to regulate activities in the Chesapeake Bay Resource Management Areas The main goal of this program is protect and restore coastal resources, habitats, and species of the Commonwealth. These include, but are not limited to, wetlands, subaqueous lands and vegetation, sand dune systems, barrier islands, underwater or maritime cultural resources, riparian forested buffers, and endangered or threatened species	The proposed action, which occurs primarily on federal property, conforms to the maximum extent practicable with the requirements of the Chesapeake Bay Preservation and Management Regulations.

Pursuant to 15 C.F.R. § 930.41, the Commonwealth of Virginia Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination or to request an extension, in writing, under 15 C.F.R. § 930.41(b). Virginia's concurrence will be presumed if its response is not received by 1 CES/CEV on the 60th day from receipt of this determination.

APPENDIX C - AIR QUALITY CALCULATIONS

Proposed Action

USAF Air Conformity Applicability Model

Receiving Installation Details

Scenario: DCGS (REV)

Installation: LANGLEY AFB

Inst. ID	ZIP Code:	County	State	No. Employees		
380	23665	HAMPTON	VA	11477		
Regional Emissions Inventory (tpy)						
Inv. Year	CO Total	NOX Total	VOC Total	SO2 Total	PM10 Total	PM2.5 Total
2002	42398	7152	8790	819	4628	N/A
Installation Emissions (tpy)			Emissions Drivers			
Inv. Year:	VOC Total	NOX Total	Fuel Type:	Commute Miles:	GOV Miles:	
2005	43.2	37.6	JP-8	0	0	
CO Total	SO2 Total	PM10 Total	Residential Heating	Facility Heating BTU/cft	New Emp. living on Base	% Facility Heating by Central Plant
19.3	1.93	4.23	0.12	84000	0	0
PM2.5 Total						
N/A						
Status Year 2004						
County Attainment Status						
Transport Zone	Ozone Status	NO2 Status	SO2 Status	PM10 Status	PM2.5 Status	CO Status
NO	NON	UNC	ATT	ATT	ATT	ATT
	Ozone Class	NO2 Class	SO2 Class	PM10 Class	PM2.5 Class	CO Class
	MAR	NA	NA	NA	NA	NA

Mobile 6					
Inspection and Maintenance Program :					
Basic					
Fleet-Mix	POV	GOV	Fleet-Mix	POV	GOV
L0VP	0.173	0.265	H0V6	0	0.016
LDT1	0.05	0.096	H0V5	0	0
LDT2	0.168	0.321	H0V7	0	0
LDT3	0	0.064	H0V8A	0	0
LDT4	0	0.029	H0B8	0	0
H0V2B	0	0.072	H0BT	0	0.002
H0V3	0	0	MC	0.009	0
H0V4	0	0.006			

Point of Contact Information	
Air Agency/AQCD: Department of Environmental Quality, Air Programs	
Web Address: www.snr.state.va.us	Phone: (804) 698-4311

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: DCGS (REV)

Installation: LANGLEY AFB

Conformity Code: GREEN

(Conformity determination is not required based on applicability screening.)

Tons/Year Emissions For 2007

	CO	NOX	VOC	SO2	PM10	PM2.5
Proposed Action Emissions:	30.64	10.04	2.02	1.17	7.01	0.00
De Minimis Thresholds:	N/A	100	100	N/A	N/A	N/A
10% of Regional Emissions Inventory:	N/A	715.2	879	N/A	N/A	N/A
LANGLEY AFB Emissions:	37.6	43.2	1.93	4.23	4.23	N/A
Regional Inventory Year:	2005					
Installation Emissions Inventory Year:	2002					
County Attainment Status Year:	2004					

Point of Contact Information

Air Agency/ AQCD: Department of Environmental Quality, Air Programs

Web Address : www.snr.state.va.us

Phone : (804) 698-4311

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: DCGS (REV)

Installation: LANGLEY AFB

Conformity Code: GREEN

(Conformity determination is not required based on applicability screening.)

Tons/Year Emissions For 2008

	CO	NOX	VOC	SO2	PM10	PM2.5
Proposed Action Emissions:	60.39	19.07	3.91	2.24	1.48	0.00
De Minimis Thresholds :	N/A	100	100	N/A	N/A	N/A
10% of Regional Emissions Inventory:	N/A	715.2	879	N/A	N/A	N/A
LANGLEY AFB Emissions:	37.6	43.2	1.93	4.23	4.23	N/A
Regional Inventory Year:	2005					
Installation Emissions Inventory Year:	2002					
County Attainment Status Year:	2004					

Point of Contact Information

Air Agency/ AQCD: Department of Environmental Quality, Air Programs

Web Address : www.snr.state.va.us

Phone : (804) 698-4311

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: DCGS (REV)

Installation: LANGLEY AFB

Conformity Code: GREEN

(Conformity determination is not required based on applicability screening.)

Tons/Year Emissions For 2009

	CO	NOX	VOC	SO2	PM10	PM2.5
Proposed Action Emissions:	0.52	0.64	0.03	0.00	0.05	0.00
De Minimis Thresholds :	N/A	100	100	N/A	N/A	N/A
10% of Regional Emissions Inventory:	N/A	715.2	879	N/A	N/A	N/A
LANGLEY AFB Emissions:	37.6	43.2	1.93	4.23	4.23	N/A
Regional Inventory Year:	2005					
Installation Emissions Inventory Year:	2002					
County Attainment Status Year:	2004					

Point of Contact Information

Air Agency/ AQCD: Department of Environmental Quality, Air Programs

Web Address : www.snr.state.va.us

Phone : (804) 698-4311

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: DCGS (REV)

Installation: LANGLEY AFB

Conformity Code: GREEN

(Conformity determination is not required based on applicability screening.)

Tons/Year Emissions For 2010

	CO	NOX	VOC	SO2	PM10	PM2.5
Proposed Action Emissions:	2.12	2.03	0.19	0.06	0.12	0.02
De Minimis Thresholds :	N/A	100	100	N/A	N/A	N/A
10% of Regional Emissions Inventory:	N/A	715.2	879	N/A	N/A	N/A
LANGLEY AFB Emissions:	37.6	43.2	1.93	4.23	4.23	N/A
Regional Inventory Year:	2005					
Installation Emissions Inventory Year:	2002					
County Attainment Status Year:	2004					

Point of Contact Information

Air Agency/ AQCD: Department of Environmental Quality, Air Programs

Web Address : www.srr.state.va.us

Phone : (804) 698-4311

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Poplar Road Alternative

04/22/05
09:56:37

USAF Air Conformity Applicability Model

Scenario: Distributed Common Ground Station

Installation: LANGLEY AFB

Receiving Installation Details

Inst. ID	ZIP Code	County	State	Employees
380	23665	HAMPTON	VA	11477

County Emissions (tpy)					
Inv. Year	CO Total	NOx Total	VOC Total	SO2 Total	PM10 Total
2002	39631	6294	8491	827	4612

Installation Emissions (tpy)			Emissions Drivers		Facility
Inv. Year	VOC Total	NOx Total	Fuel Type	Heating	Heating
1998	32.84	29.79	JP-8	0.12 MMBTU/resident year	84,000 BTU/sqft
CO Total	SO2 Total	PM10 Total	One-Way Commute	GOV VMT Annual	New Employees Living on Base
14.46	4.56	4.56	0.00 miles	0.00 miles/per	0.0%
			Facility Heating by Central Plant		0.0%

County Attainment Status						
Status Year	Transport Zone	Ozone Status	NO2 Status	SO2 Status	PM10 Status	CO Status
2002	NO	MAN	UNC	ATT	ATT	UNC
	PSD Area	Ozone Class	NO2 Class	SO2 Class	PM10 Class	CO Class
	YES	NA	NA	NA	NA	NA

Mobile6

Inspection and Maintenance Program:

Basic

Fleet-Mix	POV	GOV		POV	GOV
LDVP	0.773	0.265	HDV5	0	0.004
LDT1	0.05	0.096	HDV6	0	0.016
LDT2	0.168	0.321	HDV7	0	0.019
LDT3	0	0.064	HDV8A	0	0.021
LDT4	0	0.029	HDV8B	0	0.074
HDV2B	0	0.072	HDBS		0.004
HDV3	0	0.007	HDBT	0	0.002
HDV4	0	0.006	MC	0.009	0

Point of Contact Information

Air Agency/AQCD:

Person: FRANCIS DANIEL

Phone: 804-424-6707

Langley Distributed Common Ground Station

Construction Information	
Construction Description New Bldg. & Parking <small>Maximum of 20 characters</small>	
No Multi-Family Units: <input type="text" value="0"/>	Start Date of Construction: Year: <input type="text" value="2007"/> Quarter: <input type="text" value="2"/>
No Single-Family Units: <input type="text" value="0"/>	
Sq Ft Commercial/Retail Units: <input type="text" value="0"/> sq. feet	
Sq Ft Office/Employment Units: <input type="text" value="144500"/> sq. feet	
Phase 1 Information: Duration of Phase 1: <input type="text" value="365"/> days Gross Area to be Graded: <input type="text" value="4.35"/> acres	
Phase 2 Information: Duration of Phase 2: <input type="text" value="200"/> days Total Acres Paved with Asphalt: <input type="text" value="2.28"/> acres	
Are Any of the Following Dust Controls in Place?	
Soil Piles <input checked="" type="radio"/> Covered Or Watered Twice Daily <input type="radio"/> Automatic Sprinkler System Installed <input type="radio"/> No Controls	Exposed Surface/Grading <input checked="" type="radio"/> Watered Twice Daily <input type="radio"/> Watered with Frequency, Keeping Soil Moist at All Times <input type="radio"/> No Controls
Loads <input type="radio"/> At Least 2 Feet of Freeboard <input checked="" type="radio"/> Secure Cover <input type="radio"/> No Controls	Truck Hauling Road <input type="radio"/> Unpaved and Watered Twice Daily <input checked="" type="radio"/> Paved <input type="radio"/> No Controls
<div>OK</div> <div>Cancel</div>	

Edit Generator	
These generators are used for emergency back-up power at the installation.	
Yearly Throughput	<input type="text" value="960"/> gallons
<input type="radio"/> Diesel < 600 hp (447 kW)	
<input checked="" type="radio"/> Diesel > 600 hp (447 kW)	
<input type="radio"/> Gasoline < 250 hp (186 kW)	
Proposed Action Period: Year: <input type="text" value="2010"/> Quarter: <input type="text" value="1"/>	<div>Continue</div> <div>Cancel/Done</div>

Langley Distributed Common Ground Station

Building Demolition Information

Demolition Description

Building 1390

Maximum of 20 characters

Duration of Demolition: days

Building Width: feet

Building Length: feet

Building Height: feet

Start Date of Demolition:

Year:

Quarter:

04/22/05

09:51:11

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Distributed Common Ground Station

Installation: LANGLEY AFB

Emissions Summary Report For 2007

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Area Sources					
Demolition	0.00	0.00	0.00	0.00	0.00
Other Phase I Const. - Grading Equip.	0.33	1.23	0.13	0.13	0.10
Other Phase I Const. - Grading Ops.	0.00	0.00	0.00	0.00	14.23
Total	0.33	1.23	0.13	0.13	14.33
Grand Total	0.33	1.23	0.13	0.13	14.33

04/22/05

09:51:11

USAF Air Conformity Applicabilty Model

Emissions Summary Information

Scenario: Distributed Common Ground Station

Installation: LANGLEY AFB

Emissions Summary Report For 2008

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Area Sources					
Demolition	0.00	0.00	0.00	0.00	0.00
Other Phase I Const. - Grading Equip.	0.11	0.41	0.04	0.04	0.03
Other Phase I Const. - Grading Ops.	0.00	0.00	0.00	0.00	1.57
Other Phase II Const. - Acres Paved	0.00	0.00	0.00	0.00	0.00
Other Phase II Const. - Mobile Equip.	3.90	9.30	1.15	0.85	0.75
Other Phase II Const. - Non-Res. Arch. Ctgs.	0.00	0.00	0.00	0.31	0.00
Other Phase II Const. - Res. Arch. Ctgs.	0.00	0.00	0.00	0.00	0.00
Other Phase II Const. - Stationary Equip.	26.45	0.69	0.04	0.99	0.02
Other Phase II Const. - Workers Trips	1.59	0.09	0.00	0.10	0.01
Total	32.05	10.49	1.23	2.29	2.39
Point Sources					
Other Const. - Facility Heating	0.13	0.16	0.00	0.01	0.01
Total	0.13	0.16	0.00	0.01	0.01
Grand Total	32.18	10.65	1.23	2.30	2.40

04/22/05

09:51:11

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Distributed Common Ground Station

Installation: LANGLEY AFB

Emissions Summary Report For 2009

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Point Sources					
Other Const. - Facility Heating	0.52	0.64	0.00	0.03	0.05
Total	0.52	0.64	0.00	0.03	0.05
Grand Total	0.52	0.64	0.00	0.03	0.05

04/22/05

09:51:11

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Distributed Common Ground Station

Installation: LANGLEY AFB

Emissions Summary Report For 2010

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Point Sources					
Emergency Generators	0.05	0.20	0.00	0.01	0.00
Other Const. - Facility Heating	0.52	0.64	0.00	0.03	0.05
Total	0.58	0.85	0.00	0.04	0.05
Grand Total	0.58	0.85	0.00	0.04	0.05

04/22/05

09:52:28

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Distributed Common Ground Station**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2007

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	1	0	0	14
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

04/22/05

09:52:28

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Distributed Common Ground Station**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2008

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	32	10	2	1	2
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

04/22/05

09:52:28

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Distributed Common Ground Station**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2009

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	0	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

04/22/05

09:52:28

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Distributed Common Ground Station**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2010

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	0	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

Langley Distributed Common Ground Station

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2007				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	0	1	0	0	14
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	14	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2008				
	CO	NO _x	VOC	SO ₂	PM ₁₀
Proposed Action Emissions:	32	11	2	1	2
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	11	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2009				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	1	1	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	14	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2010				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	1	1	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	11	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

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Sweeney Blvd. Alternative

04/22/05
10:25:21

USAF Air Conformity Applicability Model

Scenario:

Installation:

Receiving Installation Details

Inst. ID	ZIP Code	County	State	Employees
<input type="text" value="380"/>	<input type="text" value="23665"/>	<input type="text" value="HAMPTON"/>	<input type="text" value="VA"/>	<input type="text" value="11477"/>

County Emissions (tpy)

Inv. Year	CO Total	NOx Total	VOC Total	SO2 Total	PM10 Total
<input type="text" value="2002"/>	<input type="text" value="39631"/>	<input type="text" value="6294"/>	<input type="text" value="8491"/>	<input type="text" value="827"/>	<input type="text" value="4612"/>

Installation Emissions (tpy)

Inv. Year	VOC Total	NOx Total
<input type="text" value="1998"/>	<input type="text" value="32.84"/>	<input type="text" value="29.79"/>

CO Total	SO2 Total	PM10 Total
<input type="text" value="14.46"/>	<input type="text" value="4.56"/>	<input type="text" value="4.56"/>

Emissions Drivers

Fuel Type	Heating	Facility Heating
<input type="text" value="JP-8"/>	<input type="text" value="0.12"/> MMBTU/resident year	<input type="text" value="84,000"/> BTU/sqft

One-Way Commute	GOV VMT Annual	New Employees Living on Base	Facility Heating by Central Plant
<input type="text" value="0.00"/> miles	<input type="text" value="0.00"/> miles/per	<input type="text" value="0.0%"/>	<input type="text" value="0.0%"/>

County Attainment Status

Status Year	Transport Zone	Ozone Status	NO2 Status	SO2 Status	PM10 Status	CO Status
<input type="text" value="2002"/>	<input type="text" value="NO"/>	<input type="text" value="MAN"/>	<input type="text" value="UNC"/>	<input type="text" value="ATT"/>	<input type="text" value="ATT"/>	<input type="text" value="UNC"/>
PSD Area	Ozone Class	NO2 Class	SO2 Class	PM10 Class	CO Class	
<input type="text" value="YES"/>	<input type="text" value="NA"/>	<input type="text" value="NA"/>	<input type="text" value="NA"/>	<input type="text" value="NA"/>	<input type="text" value="NA"/>	

Mobile6

Inspection and Maintenance Program:

Fleet-Mix

	POV	GOV		POV	GOV
LDVP	<input type="text" value="0.773"/>	<input type="text" value="0.265"/>	HDV5	<input type="text" value="0"/>	<input type="text" value="0.004"/>
LDT1	<input type="text" value="0.05"/>	<input type="text" value="0.096"/>	HDV6	<input type="text" value="0"/>	<input type="text" value="0.016"/>
LDT2	<input type="text" value="0.168"/>	<input type="text" value="0.321"/>	HDV7	<input type="text" value="0"/>	<input type="text" value="0.019"/>
LDT3	<input type="text" value="0"/>	<input type="text" value="0.064"/>	HDV8A	<input type="text" value="0"/>	<input type="text" value="0.021"/>
LDT4	<input type="text" value="0"/>	<input type="text" value="0.029"/>	HDV8B	<input type="text" value="0"/>	<input type="text" value="0.074"/>
HDV2B	<input type="text" value="0"/>	<input type="text" value="0.072"/>	HDBS	<input type="text" value="0"/>	<input type="text" value="0.004"/>
HDV3	<input type="text" value="0"/>	<input type="text" value="0.007"/>	HDBT	<input type="text" value="0"/>	<input type="text" value="0.002"/>
HDV4	<input type="text" value="0"/>	<input type="text" value="0.006"/>	MC	<input type="text" value="0.009"/>	<input type="text" value="0"/>

Point of Contact Information

Air Agency/AQCD:

Person:

Phone:

Langley Distributed Common Ground Station Sweeney Boulevard Alternative Input Screens

Construction Information	
Construction Description <div style="border: 1px solid black; padding: 2px; display: inline-block;">New Building</div> <small>Maximum of 20 characters</small>	
<p>No Multi-Family Units: <input style="width: 50px;" type="text" value="0"/></p> <p>No Single-Family Units: <input style="width: 50px;" type="text" value="0"/></p> <p>Sq Ft Commercial/Retail Units: <input style="width: 50px;" type="text" value="0"/> sq. feet</p> <p>Sq Ft Office/Employment Units: <input style="width: 50px;" type="text" value="144500"/> sq. feet</p>	<p>Start Date of Construction:</p> <p>Year: <input style="width: 50px;" type="text" value="2007"/></p> <p>Quarter: <input style="width: 50px;" type="text" value="2"/></p>
<p>Phase 1 Information:</p> <p>Duration of Phase 1: <input style="width: 50px;" type="text" value="365"/> days</p> <p>Gross Area to be Graded: <input style="width: 50px;" type="text" value="4.35"/> acres</p> <p>Are Any of the Following Dust Controls in Place?</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Soil Piles</p> <p><input checked="" type="radio"/> Covered Or Watered Twice Daily</p> <p><input type="radio"/> Automatic Sprinkler System Installed</p> <p><input type="radio"/> No Controls</p> </div> <div style="width: 45%;"> <p>Exposed Surface/Grading</p> <p><input checked="" type="radio"/> Watered Twice Daily</p> <p><input type="radio"/> Watered with Frequency, Keeping Soil Moist at All Times</p> <p><input type="radio"/> No Controls</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Loads</p> <p><input type="radio"/> At Least 2 Feet of Freeboard</p> <p><input checked="" type="radio"/> Secure Cover</p> <p><input type="radio"/> No Controls</p> </div> <div style="width: 45%;"> <p>Truck Hauling Road</p> <p><input type="radio"/> Unpaved and Watered Twice Daily</p> <p><input checked="" type="radio"/> Paved</p> <p><input type="radio"/> No Controls</p> </div> </div>	<p>Phase 2 Information:</p> <p>Duration of Phase 2: <input style="width: 50px;" type="text" value="200"/> days</p> <p>Total Acres Paved with Asphalt: <input style="width: 50px;" type="text" value="2.28"/> acres</p>
<div style="display: flex; justify-content: space-around; width: 100%;"> <div style="border: 1px solid black; padding: 5px 20px;">OK</div> <div style="border: 1px solid black; padding: 5px 20px;">Cancel</div> </div>	

Edit Generator
<p style="text-align: center;">These generators are used for emergency back-up power at the installation.</p>
<p style="text-align: center;">Yearly Throughput <input style="width: 100px;" type="text" value="960"/> gallons</p>
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p>Proposed Action Period:</p> <p>Year: <input style="width: 50px;" type="text" value="2010"/></p> <p>Quarter: <input style="width: 50px;" type="text" value="1"/></p> </div> <div style="width: 55%;"> <p><input type="radio"/> Diesel < 600 hp (447 kW)</p> <p><input checked="" type="radio"/> Diesel > 600 hp (447 kW)</p> <p><input type="radio"/> Gasoline < 250 hp (186 kW)</p> </div> </div>
<div style="display: flex; justify-content: space-around; width: 100%;"> <div style="border: 1px solid black; padding: 5px 20px;">Continue</div> <div style="border: 1px solid black; padding: 5px 20px;">Cancel/Done</div> </div>

Langley Distributed Common Ground Station Sweeney Boulevard Alternative Input Screens

Building Demolition Information

Demolition Description

Maximum of 20 characters

Duration of Demolition: days

Building Width: feet

Building Length: feet

Building Height: feet

Start Date of Demolition:

Year:

Quarter:

**Langley Distributed Common Ground Station
Sweeney Boulevard Alternative Input Screens**

Building Demolition Information

Demolition Description

Building 329

Maximum of 20 characters

Duration of Demolition: days

Building Width: feet

Building Length: feet

Building Height: feet

Start Date of Demolition:

Year:

Quarter:

Langley Distributed Common Ground Station Sweeney Boulevard Alternative Input Screens

Building Demolition Information

Demolition Description

Maximum of 20 characters

Duration of Demolition: days

Building Width: feet

Building Length: feet

Building Height: feet

Start Date of Demolition:

Year:

Quarter:

Langley Distributed Common Ground Station Sweeney Boulevard Alternative Input Screens

Building Demolition Information

Demolition Description

Building 337

Maximum of 20 characters

Duration of Demolition: 90 days

Building Width: 61 feet

Building Length: 92 feet

Building Height: 12 feet

Start Date of Demolition:

Year: 2008

Quarter: 2

OK Cancel

Langley Distributed Common Ground Station Sweeney Boulevard Alternative Input Screens

Building Demolition Information

Demolition Description

Maximum of 20 characters

Duration of Demolition: days

Building Width: feet

Building Length: feet

Building Height: feet

Start Date of Demolition:

Year:

Quarter:

04/22/05

10:25:17

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Sweeney Boulevard Alternative

Installation: LANGLEY AFB

Emissions Summary Report For 2007

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Area Sources					
Demolition	0.00	0.00	0.00	0.00	0.07
Other Phase I Const. - Grading Equip.	0.33	1.23	0.13	0.13	0.10
Other Phase I Const. - Grading Ops.	0.00	0.00	0.00	0.00	14.23
Total	0.33	1.23	0.13	0.13	14.40
Grand Total	0.33	1.23	0.13	0.13	14.40

04/22/05

10:25:17

USAF Air Conformity Applicabilty Model

Emissions Summary Information

Scenario: Sweeney Boulevard Alternative

Installation: LANGLEY AFB

Emissions Summary Report For 2008

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Area Sources					
Demolition	0.00	0.00	0.00	0.00	0.10
Other Phase I Const. - Grading Equip.	0.11	0.41	0.04	0.04	0.03
Other Phase I Const. - Grading Ops.	0.00	0.00	0.00	0.00	1.57
Other Phase II Const. - Acres Paved	0.00	0.00	0.00	0.00	0.00
Other Phase II Const. - Mobile Equip.	3.90	9.30	1.15	0.85	0.75
Other Phase II Const. - Non-Res. Arch. Ctgs.	0.00	0.00	0.00	0.31	0.00
Other Phase II Const. - Res. Arch. Ctgs.	0.00	0.00	0.00	0.00	0.00
Other Phase II Const. - Stationary Equip.	26.45	0.69	0.04	0.99	0.02
Other Phase II Const. - Workers Trips	1.59	0.09	0.00	0.10	0.01
Total	32.05	10.49	1.23	2.29	2.49
Point Sources					
Other Const. - Facility Heating	0.13	0.16	0.00	0.01	0.01
Total	0.13	0.16	0.00	0.01	0.01
Grand Total	32.18	10.65	1.23	2.30	2.50

04/22/05

10:25:17

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Sweeney Boulevard Alternative

Installation: LANGLEY AFB

Emissions Summary Report For 2009

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Point Sources					
Other Const. - Facility Heating	0.52	0.64	0.00	0.03	0.05
Total	0.52	0.64	0.00	0.03	0.05
Grand Total	0.52	0.64	0.00	0.03	0.05

04/22/05

10:25:17

USAF Air Conformity Applicability Model

Emissions Summary Information

Scenario: Sweeney Boulevard Alternative

Installation: LANGLEY AFB

Emissions Summary Report For 2010

Source Category	Emissions, Tons/Year				
	CO	NOX	SO2	VOC	PM10
Point Sources					
Emergency Generators	0.05	0.20	0.00	0.01	0.00
Other Const. - Facility Heating	0.52	0.64	0.00	0.03	0.05
Total	0.58	0.85	0.00	0.04	0.05
Grand Total	0.58	0.85	0.00	0.04	0.05

04/22/05
10:25:25

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Sweeney Boulevard Alternative**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2007

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	1	0	0	14
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

04/22/05
10:25:25

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Sweeney Boulevard Alternative**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2008

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	32	10	2	1	2
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

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Person: **FRANCIS DANIEL**

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USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Sweeney Boulevard Alternative**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2009

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	0	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

04/22/05

10:25:25

USAF Air Conformity Applicability Model

Conformity Screening

Scenario: **Sweeney Boulevard Alternative**

Installation : **LANGLEY AFB**

Conformity Code **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

Tons/Year Emissions For 2010

	CO	NOX	VOC	SO2	PM10
Proposed Action Emissions:	0	0	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629.4	849.1	N/A	N/A
LANGLEY AFB Emissions:	14.46	29.79	32.84	4.56	4.56

County Emissions Inventory Year is 2002

Installation Emissions Inventory Year 1998

County Attainment Status Year is 2002

This installation is within 50 km of a PSD Class 1 Area.

Point of Contact Information

Air Agency/AQCD **DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR DIVISION**

Person: **FRANCIS DANIEL**

Phone: **804-424-6707**

Langley Distributed Common Ground Station Sweeney Blvd. Alternative Conformity Assessment

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2007				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	0	1	0	0	14
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	14	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station Sweeney Blvd. Alternative Conformity Assessment

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2008				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	32	11	2	1	3
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	14	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station Sweeney Blvd. Alternative Conformity Assessment

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2009				
	CO	NOx	VOC	SO2	PM10
Proposed Action Emissions:	1	1	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	14	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

Langley Distributed Common Ground Station Sweeney Blvd. Alternative Conformity Assessment

Conformity Screening Assessment

Conformity Code: **GREEN** (Conformity determination is not required based on applicability screening.)

LANGLEY AFB

	Tons/Year Emissions For 2010				
	CO	NO _x	VOC	SO ₂	PM ₁₀
Proposed Action Emissions:	1	1	0	0	0
De Minimis Thresholds:	N/A	100	100	N/A	N/A
Ten Percent of County Budget:	N/A	629	849	N/A	N/A
LANGLEY AFB Emissions:	11	30	33	5	5

Previous Year

Next Year

Exit

County Emissions Inventory Year is 2002
Installation Emissions Inventory Year is 1998
County Attainment Status Year is 2002
Ozone Transport Region: NO
PSD Class I Area: YES

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**APPENDIX D - VIRGINIA AQUATIC RESOURCE
TRUST FUND AUTHORIZATION**

**COMMONWEALTH of VIRGINIA****DEPARTMENT OF ENVIRONMENTAL QUALITY**

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

Fax (804) 698-4509 TDD (804) 698-4021

www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural ResourcesDavid K. Paylor
Director(804) 698-4000
1-800-592-5482

January 31, 2007

Mr. J. Robert Hume
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Norfolk District Regulatory Branch
803 Front Street, Fort Norfolk
Norfolk, Virginia 23510-1096

**RE: Continued Approval of Use of Virginia Aquatic Resources Trust Fund until
June 30, 2008**

Dear Mr. Hume:

We appreciate the efforts by the Norfolk District Corps of Engineers (the Corps) and The Nature Conservancy (TNC) to administer and implement the Virginia Aquatic Resources Trust Fund (the Fund) in such a manner that meets DEQ's statutory and regulatory requirements for wetland and stream compensation. In particular, we note that the Corps has greatly improved both the timeliness and usefulness of these annual reports to give DEQ and the public a more accurate picture of the Fund's successes. Since our approval letter of January 10, 2006, the Corps has incorporated the conditions we identified at that time, and we are pleased with the collaborative approach that the Corps, DEQ, and TNC have taken in recent months to coordinate project reviews.

On behalf of the State Water Control Board (the Board) and pursuant to Section 62.1-44.15:5D of the Code of Virginia and 9 VAC 25-210-115E, DEQ hereby approves the continued use of the Fund as an acceptable form of compensatory mitigation for impacts to state waters, including wetlands, permitted under Virginia Water Protection individual and general permits. According to Virginia Code Section 62.1-44.15:5D wetland compensation requirements may be met by "contributing to a fund that is approved by the Board and is dedicated to achieving no net loss of wetland acreage and functions".

This approval is given in accordance with the requirements set forth in 9 VAC 25-210-115E and after reviewing the *Memorandum of Understanding between The Nature Conservancy and the*

Letter on Approval of Virginia Wetlands Trust Fund

January 31, 2007

U.S. Army Corps of Engineers on operation of the Virginia Aquatic Resources Trust Fund (dated August 18, 1995 and amended December 18, 2003); after reviewing the 2005 Final Report of fund activities (dated April 10, 2006), and after considering information discussed during a meeting between the Corps, DEQ, and The Nature Conservancy (on November 8, 2006).

A notice of intent to approve the Fund was published in the Virginia Register on October 30, 2006 to solicit public comments. The comment period closed on December 1, 2006 and two comments were submitted (a letter from The Nature Conservancy and an email from you). After considering statutory and regulatory requirements, and the information identified above, DEQ's approval for use of the Fund to satisfy compensation requirements for state permits is conditioned upon the following:

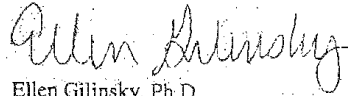
1. The Corps continues to demonstrate, at a minimum, a no net loss policy in terms of wetland or stream acreage and function by adoption of operational goals or objectives for restoration, creation, enhancement, or preservation of wetland or stream acreage and function, as specified in 9 VAC 25-210-115E.
2. The Corps continues to provide timely annual reports to the Board detailing contributions received and acreage and type of wetlands or streams restored, created, enhanced, or preserved in each river watershed (8-digit hydrologic unit code) receiving those contributions, as well as the mitigation credits contributed for each watershed of project impact, as specified in 9 VAC 25-210-115E.
3. DEQ continues to have the opportunity to review and comment on site selection and wetland and stream project plans prior to their approval; and monitoring reports on wetland and stream restoration sites are completed and available for review.
4. The Corps continues to disallow use of the Fund as a compensatory mitigation option in geographic areas having approved mitigation banks with appropriate credits available for purchase unless mitigation provided by the Fund would be preferable in terms of replacement of wetland or stream acreage and function. For this condition, DEQ considers "replacement of wetland or stream acreage and function" to include restoration, creation, and enhancement.
5. The Corps continues to use a fee mechanism ensuring that each contribution is adequate to compensate for the wetland or stream acreage and function lost in the impacted watershed, as specified in 9 VAC 25-210-115E. This fee mechanism should be structured to insure that any approved mitigation banks in the appropriate service area would not be economically disadvantaged by Fund contributions, and the fee mechanism structure should also be capable of adjustments to account for changes in the economy and market forces.

Approval of continued use of the Fund by DEQ's Office of Wetlands & Water Protection does not guarantee its use for compensation for a particular project's surface water impacts, including wetlands. Decisions on use of the Fund for a particular project are to be made on a case-by-case basis after considering the type and location of wetland or stream impacts and all appropriate compensation alternatives. DEQ reserves the right to deny use of the Fund for specific project impacts in watersheds that are not represented by active compensation sites and where approved mitigation bank credits or other compensation options are available.

Letter on Approval of Virginia Wetlands Trust FundJanuary 31 2007

Based upon comments received by TNC, we agree that the timing of the Corps' annual report and DEQ's approval of that report are somewhat disjunct. To place the annual report submittal and our approval on a more logical schedule, our approval is granted for an eighteen month period and will expire on June 30, 2008. Further approval of the Fund will be based upon meeting the commitments outlined above, including the continued demonstration of no net loss of wetland or stream acreage and function. We look forward to continuing the collaborative approaches with your staff and that of The Nature Conservancy on the review of new compensation sites, especially in those watersheds that are currently underrepresented by the Virginia Aquatic Resources Trust Fund.

Sincerely,



Ellen Gilinsky, Ph.D.
Director, Division of Water Quality

cc: Ms. Linda Cröwe, The Nature Conservancy

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